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A PHASE OF COMPULSORY EDUCATION

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To those interested in the welfare of children, the announcement of the amendment to the New York state compulsory education law, to go into effect on February 1, 1917, will be welcome news. The amended law, in brief, will permit children to secure employment certificates under the following conditions: (*a*) they must be at least fourteen years of age and have completed the work of the elementary school; (*b*) if they have completed only the work of the first six years, they must be at least fifteen years of age; (*c*) any child who is sixteen years of age is permitted to leave school and go to work irrespective of the grade he is in. The New York Child Labor Committee may well be proud of its work, since it was instrumental in securing the passage of this amendment, which now puts our state in the foremost rank of those states that are providing for the welfare of their children through excellent compulsory education provisions.

There has been a gradual raising of these standards, both as to age and as to educational attainments which children have had to reach before the law permitted them to take their places in the world of business. Where formerly it was possible for a child to go to work after acquiring a knowledge of the simplest rudiments

of an academic training, most children must now, under ordinary conditions, have received a fairly thorough school training before being permitted to leave school.

It is indeed fortunate for us that we have passed the stage where it was possible for an individual to consider his own welfare alone and where he lived and acted for the satisfaction of his own wants and desires without regard for others. The weak and ignorant were exploited by the stronger and more intelligent. The history of civilization teaches us that the safety and progress of our society depends on the welfare of the individual, who must contribute to its well-being when his turn comes. If, therefore, we would have a stable and progressive society, we must give much care to those who will later form part of it. Our complex life demands a far longer preparation for one who is to take a part in it than was formerly required, and most of this preparation is now obtained in the school. This, in short, is the theory underlying compulsory education, and it is one which no right-minded person can fail to accept. So important does our own city think attendance in school to be, that there has been established a "Bureau of Compulsory Education, School Census, and Child Welfare," commonly known as the "Bureau of Attendance," and one of its chief duties is to "cause to attend upon school instruction" every child who is legally required to attend school.

It is often stated that good compulsory education and child labor laws should have no exceptions, that what is for the benefit of one must undoubtedly be of benefit to all. For the vast majority this is true, but, as sometimes happens with man-made laws, there are a few—a very few in our case—for whom a setting aside of the requirements of the law would be exceedingly wise both for their own welfare and for that of the community. There is a type of boy in our city elementary schools who is a "misfit" in our educational system. He is a big, strapping boy who is in a grade more or less below that to which his age and physical development would ordinarily entitle him. We are going to consider such a boy, who is past fourteen years of age, who is not legally permitted to go to work owing to his failure to have reached a certain grade, who is unfitted by nature to continue the ordinary course of study in the

elementary school, and for whom as yet there has been made little or no special provision adapted to his different nature and temperament. For him the law is compulsory in that the time requirement for remaining in school seems to be the most important factor, with less emphasis on his educational attainments. His mere presence in school satisfies the requirements of the law, while for the vast majority it would thus be their success in advancing from grade to grade. The time element in the one case corresponds to the scholarship element in the other. Thus the chief weakness of a compulsory education law appears to be that it practically requires mere attendance on the part of our type of child, as will be more fully shown later.

Unfortunately this type of boy is sometimes "boldly and persistently disobedient. Some of these are more or less rowdyish and insolent, but hardly vicious; others approach the criminal in character—sometimes attempting to start a panic in a fire drill, by shouting and running; sometimes using foul language to the teacher or throwing a knife or book at her . . . . and frequently defying both classroom teacher and principal outright. . . . ." Others of this type are those who are "extremely disobedient, disorderly, and defiant, and who must be kept within the school; there is practically no other provision for them. They have little respect for authority, little regard for the rights of others, and little fear beyond that of bodily hurt." Such are the findings of Professor McMurry, as stated in his report as a member of the "School Inquiry Committee-Board of Estimate and Apportionment." This survey of the schools of New York City was carried on from 1911 to 1913.

Again, still others are reported as "ungovernable," "unmanageable," "incorrigible," "truant," "unwilling and refusing to study," etc. Saddest of all, some of these children find themselves in the children's court, charged with juvenile delinquency, due sometimes directly or indirectly to the lack of mutual adjustment of school and child to each other. The writer fervently pleads with the reader not to be unduly influenced by these characterizations of our boy, nor to form a hasty judgment as to the best solution for this matter on the basis of these facts alone, but to give this sad condition and serious problem earnest and careful consideration.

The following statistics will, to a great extent, serve to show more explicitly the nature and extent of our problem, though in a more or less general way only, since they do not bear exactly on our subject, but still are the only ones available at the present time.

1. The first set is an extract from Table XII of the *Seventeenth Annual Report of the City Superintendent of Schools of New York.*

TABLE XII
[*Extract*]

AGE-GRADE DISTRIBUTION OF PUPILS IN THE ELEMENTARY SCHOOLS OF THE ENTIRE CITY, FEBRUARY 5, 1915

Grade	Age-Grade Standard	14–14½	14½–15	15–15½	15½–16
5A	10½–11½	628	786	552	308
5B	11 –12	997	1,129	807	529
6A	11½–12½	1,498	1,719	1,218	710
6B	12 –13	2,107	2,247	1,692	945

Here are hundreds of children who are over-age, many of whom are far behind in their studies owing to various reasons, such as physical defects, illness, foreign parentage, etc. There are also those who are in good physical condition and who began school at the proper age, but who, because of mental characteristics and capacities different from those which most children possess, fail to react to the requirements of school life as is ordinarily expected.

2. The following are extracts of Tables XV, XX, XXIII, and XXVI of the *First Annual Report of the Director of Attendance.*

TABLE XV
[*Extract*]

SHOWING DISTRIBUTION BY CAUSES OF ABSENCE AND SEX OF 130,513 CASES INVESTIGATED BY ATTENDANCE OFFICERS

Cause of Absence	Total	Boys	Girls
Truant	29,520	26,895	2,626
Employed illegally while enrolled in elementary school	2,318	1,173	1,145
Not found	9,104	5,118	3,986

A comment of the report on Table XV is to the effect that there is a "comparatively small number of children employed illegally . . . . although this number would undoubtedly be increased if

all the children reported as 'not found' . . . . could be located." It is assumed, of course, that our boy is often a truant, owing in many cases to his dislike for school. Again, for this reason, he will often go to work even though prohibited by law, as will be shown by an actual case later.

An honest statement of the foregoing facts requires the quoting of extracts from Tables XX, XXIII, and XXVI.

TABLE XX

[*Extract*]

SHOWING COMPLETE DISTRIBUTION BY CAUSE AND RESULT OF INVESTIGATION OF 130,513 CASES INVESTIGATED BY ATTENDANCE OFFICERS

Cause of Absence	Total	Returned to School	Placed in School	Legally Employed	Not Found
Truant	29,520	24,174	5,230	61	55
Employed—no employment certificate while enrolled in elementary school	2,318	1,162	89	1,047	20
Not found	9,104	.....	.....	.....	9,104

TABLE XXIII

[*Extract*]

SHOWING DISTRIBUTION OF HEARINGS BY COMPLAINT

Truancy	4071
Illegally employed	214

TABLE XXVI

[*Extract*]

SHOWING DISTRIBUTION OF CHILDREN FOR WHOM HEARINGS WERE CALLED BEFORE DIVISION SUPERVISORS, BY AGE, SEX, COMPLAINT

Age		Truancy	Illegally Employed
14	Boys	748	41
	Girls	112	11
15	Boys	801	57
	Girls	129	41
16	Boys	206	26
	Girls	57	7

3. In the *Annual Report of the Children's Court of the City of New York* for the year ending December 31, 1915, the records of the

Probation Bureau show that this department found it necessary to investigate the cases of 4,440 boys brought before the Court. Of this number there were 1,937 boys between the ages of fourteen and sixteen. Out of the total number, it was found necessary after this investigation to commit 399 and to place 2,617 on probation and 879 under supervision, while 201 were discharged and in 344 cases sentence was suspended. It is therefore impossible to state exactly just how many of the 1,937 boys mentioned above as being between fourteen and sixteen would come within our particular class, but suffice it to say that it is not a question of numbers, and that, no matter how many or how few, for their own welfare the peculiar problem which their condition presents deserves our particular attention, and it is the duty of society to offer them every possible means for their betterment.

Our problem really originates in the school and sometimes spreads to the Children's Court for further consideration. Our boy is unable to adjust himself to school conditions and is unsuited to the class in which he finds himself, because of his older age, more developed physical condition, different nature, and the lack of of special provision for him. Various other factors combine with these and produce a boy whose unsocial behavior brings him to our attention in the manner described above.

In the following paragraphs are given some of the more important and possible methods of discipline, correction, and reformation.

1. The use of corporal punishment under certain restrictions is advocated by Professor McMurry in the report referred to above. This method is prohibited in the schools of New York City. No one can deny its value, however, for a particular offense where such immediate and severe action is necessary, but he who believes that such a method can correct a chronic and deep-seated condition is old-fashioned and ignorant of the principles of modern educational practice. There are times when corporal punishment is undoubtedly necessary, but as a general solution for our problem it would be wrong and would fail absolutely. We don't any longer, for one thing, try to "lick" knowledge into the heads of unwilling and incapable children.

2. Where the conduct of a boy is such that it requires more serious consideration, and where ordinary methods of correction and discipline have failed, the principal of a school has the power to bring this matter to the attention of the district superintendent, who holds a hearing, but whose jurisdiction is limited to the transmission of his findings to the city superintendent of schools for further action. In the report quoted above Professor McMurry describes the difficulties in the way of bringing such children to trial, the reluctance and unwillingness on the part of a principal to resort to such a method of procedure, the humiliation of the complainants who must make their accusations to another before whom defendant and complainant appear on the same level, and states that finally, in most cases, the verdict is simply the transfer of the boy to another school, which "is not at all what many of these children most need." This method seems likely to fall into disuse, for, as the Bureau of Attendance becomes better organized, it will necessarily take over this function of holding hearings.

3. In the chapter on "Probationary Schools and Truant Schools" of his *Seventeenth Annual Report*, City Superintendent of Schools Maxwell makes the following statements:

> In my *Eleventh Annual Report*, I recommended "that Probationary Schools, similar to P.S. 120—two in Manhattan, two in Brooklyn, one in the Bronx, and one in Queens—be established as soon as buildings can be obtained in which to house them. Institutions such as the Parental School will always be needed. It is much cheaper however, where it is possible, to reform a boy in a day school than to board him and lodge him (p. 206). . . . .
>
> The primary purpose of these schools is to reform delinquent pupils. Delinquent children are not necessarily mentally defective. They may be children who are temperamentally different from the normal child; or those who show signs of criminal tendencies; or truants who, without criminal intent, may be led into dangerous company and bad practices.
>
> The special care and treatment which these children need cannot be given to them by the regular class teachers, who must work under the strain of large classes. Furthermore, these delinquent children should not be permitted to interfere with the class work of the normal pupils. Children who are admitted to these schools have been given every opportunity in at least one elementary school and usually in two schools; they are not transferred to the probationary school until they have shown clearly that they cannot get along in the regular classes. Both their own welfare and the progress of normal pupils demand

that the delinquent children be grouped in special classes or schools, in charge of teachers who are specially trained to care for them. . . . .

The course of study in probationary schools should include academic subjects, Physical Training, Industrial or Vocational Training, and Moral Training. . . . .

This is an excellent method, by which, no doubt, many of our boys will be taught to respond in the right way. Especially is such a school of decided value for the younger children where delinquency is not of long standing. Yet even here it is a question whether or not the legal minimum-age limits for leaving would not bring up our problem again in a different form. There is the possibility of the time element of the law being the emphasized factor of its "compulsoriness." However, owing to the high cost of such schools, there is an insufficient number of them, and in these days of economy and retrenchment in making appropriations such added expense will not meet with much favor. Present conditions cannot, therefore, encourage us much in this direction, and so we must seek elsewhere for a more practical solution.

4. Under the compulsory education law it is a duty of the Bureau of Attendance—

to order any child between 7 and 16 years of age, who is an habitual truant from instruction upon which he is lawfully required to attend or who is unsubordinate or disorderly during attendance, to attend a truant school, for a period not exceeding two years, and in no case after the child is 16 years of age, provided after reasonable notice to such child and the persons in parental relation to such child, and an opportunity for them to be heard, the consent in writing of the persons in parental relation to such child shall have been given. The authority to commit such a child to a truant school and to parole him therefrom resides in the Director of Attendance.

Some of the "policies" of this bureau as "interpreting" its duties under the law are: (*a*) "to provide for the apprehension, arraignment, study, treatment, and rehabilitation of the persistently irregular or habitually truant and delinquent child; this contemplates commitment if necessary"; (*b*) "to prosecute in the courts those children who are habitually truant or irregular in attendance or disorderly while in attendance, and who have been adjudged beyond the control of the parents"; (*c*) to co-operate

fully with the Children's Court for the control of juvenile delinquency."

This bureau has set forth for itself an excellent program of work to carry out its duties under the requirements of the law. It makes, when necessary, a thorough investigation of all the factors which influence the life of a child who is summoned for a hearing for violation of the compulsory education law, and is ready to do all in its power to remedy matters, although exceedingly handicapped owing to lack of "sufficient funds to carry out its plans properly." There were only 4 hearings for incorrigibility for the school year ending July 31, 1915. This strangely small number is undoubtedly accounted for by the fact that many of our type of boy were also truants and as such probably formed a good part of the 4,071 truants summoned for hearings.

Yet there comes a time in dealing with our boy, after we have made all necessary investigations, when we feel that under existing conditions our efforts must fail, and that if the provisions of the law were temporarily set aside to permit us to do for the boy what our judgment impels us to do for his best interests, we might then hope for success in our handling of this problem. It is again emphasized that we must not limit our consideration of the case to the particular acts of delinquency on the part of the boy, but we must go beneath the surface and seek the condition which is the primary cause. Our boy is unfitted by nature to continue in the regular school, and there is very little actual provision for him otherwise. Definite and prompt action is needed. The laws of educational psychology require us to plan school method and content to conform to the characteristics of the mental functioning of the child at various periods. The school, not the child, must do most of the accommodating in this respect. No one denies the right of the school to claim the time of the child for the purpose of training him, but the time so spent must be profitable for the child. If it is not, it is for the school to relinquish such claim.

The following case histories will serve to illustrate our problem and show what should and can be done to solve it.

1. W.A. is a big boy, fifteen years old, and is only in Grade VI A. When he was thirteen, he was brought to the Children's Court for

having stayed away from home. A year later he was arrested again for having entered a cellar and stolen some nuts. During the past school term he again stayed away from school and home on two different occasions for three and four days respectively, the last time being implicated with two other boys in having stolen jewels from the parents of one of them. The school record of W. shows that his conduct has been poor and that he was "left-back" several times. The principal of this school at one time wrote to his probation officer that he "was associating with undesirable companions, smoking cigarettes, shooting craps, and was bold and defiant in his attitude." He was "left-back" this term because of his lack of effort and unwillingness to do the required work. He refused to attend "summer school" to make this up. The home conditions are satisfactory. Here is a big, healthy, lazy fellow who is actually accomplishing nothing by being in school. The law requires that boy to attend until he is sixteen years old, owing to his low grade. Are we to stand blindly by and let him practically idle his time away for another year until he will be permitted to go to work, when nothing really would be lost if he were allowed to do so now?

2. Here is another boy who illegally solved his problem in a manner which must command our approval and admiration. When L. K. was fourteen, he secured a transfer to another school at the beginning of the fall term, when he moved to another district. Nothing more was heard of him for about 100 school days. He "disappeared" when he should have been in school. Previous to this he showed intense dislike for school and his record proved this. This boy was therefore a truant within the meaning of the compulsory education law and was violating its provisions. When he was found later, he was taken to the Children's Court, which placed him on probation. It was learned that he had secured employment in a large department store and earned $7 a week.

While on probation his record was excellent, and he put forth his best efforts in Grade VII A to which he was returned. The only complaint, however, was that this very big boy would resent being "spoken to" and would "answer back." The law requires him to attend at least 130 days during the year previous to his

request to be permitted to work, and up to this June he has attended about 70 days and so will be forced to return this fall to complete the time requirement.

The family is in poor circumstances. L. is an excellent son at home and for two years he has been working after school to help in the support of his family. There is a stepfather who is a peddler, another boy of sixteen who works, and six little children to be supported on these meager earnings. A sociologist would argue that to prevent the family from becoming a recipient of charitable aid, the boy should be permitted to work as he has been doing and not be forced to attend school.

On one occasion L. made the following complaint: "It is a struggle for me to be in school because it is disagreeable for a boy of my size to associate with little fellows, and anyway I want to be independent of the support of my father." This summer he secured employment as a salesman in a men's clothing-shop, although illegally, and earned $10 per week and as much as $5 more for overtime. In an application for another position he gave his age as twenty-two, and his manly appearance would cause no doubt to arise about this in the mind of a stranger, although he is only fifteen years of age. His magnetic personality quickly wins the confidence and respect of those with whom he comes in contact. To his probation officer he stated that he would not return to school under any circumstances, even if he had to leave the city and go elsewhere.

If this "boy" who is already a young man does not return to school as the law requires him to do to be eligible for an employment certificate, it will be possible to commit him to a truant school. Here is a young man who is already showing himself to be a good citizen and who gives promise of proving a welcome asset to the community. Will it not be a crime against his nature for us blindly to obey the law and violently to force him to attend school? Is there any doubt at all as to which is the proper solution for this problem—a boy who absolutely abhors school and is "making good" elsewhere?

3. H. F. was fifteen when he first came to the Children's Court charged with incorrigibility, being disorderly at home and also

remaining away from there. He was always troublesome, demanded money which the mother was unable to give him, refused to attend "summer school" to make up classes, and was a disturbing element in the home. In school he was a truant. The principal stated that the boy would not benefit by being in school and that, owing to his age, size, and temperament, he was a detriment to the class. Because of his inability to progress there, it was suggested that he be transferred to a vocational school, where he was later denied admission on the grounds of "ineligibility and unfitness." A short time after this the mother was taken to the hospital, and the home, being neglected, became dirty and badly kept. H. came home only to eat and sleep. He became a truant again, and "hung out" in a barber-shop where he spent his time loafing about and smoking cigarettes. He was examined by an expert on mental disorders of children, who declared that the boy was not fit for his class in school and ought to be permitted to go to work, which permission he was legally able to get some months later.

When he did secure employment, his probation record showed that he became a differently behaved person and acted in the way a good son should. Steady work undoubtedly effected a reformation in this boy's character.

4. B. W. was thirteen and a half when he was arrested for stealing a bicycle. His early probation record shows poor behavior and failure to meet his probation officer several times when requested. He was twice remanded for a week by the court for poor reports in school. He was a truant, stayed out late at night, and his attitude was one of indifference and bravado at first. His school record shows that "he had been demoted for inattention and was making no effort." A year later a teacher reported as follows: "I am the only teacher who kept him an entire term in her class. He spent 4 terms in VI AA—not only kept him in the class but gave him an hour's coaching every day to make up for lost time and make it possible for him to be promoted to VII A. Before witness gave him a chance to begin all over with understanding that he would do as rest of class. He refused." The boy failed to get along with this teacher and continued his truancy. At home, however, his conduct had changed

for the better. The probation officer visited the assistant principal of the school, and in the report stated that "this official was unsympathetic and was of opinion that the boy should be placed under restraint." Later the boy was transferred to another school, where he finally secured his working certificate when he was past fifteen, a long time after he might have received it with the same benefit to himself and the avoidance of useless trouble and waste of time. He worked hard when he secured employment and was ambitious, "showing a love for business which he never showed for school. He looks quite manly since employed and shows good spirit in his desire to do right." B. states that he is "past the foolish age" and is "going to keep straight," his excellent probation record for this period being sufficient proof of this desire being acted on.

The first case was cited to show where our remedy of allowing our type of boy to go to work in spite of the law would be necessary and proper. The second case was a clear illustration of the possible benefits that might come to a boy if this exception to the law were allowed. The third and fourth show the inevitable good results that come in the vast majority of such cases after these boys are permitted to go to work. Let it be understood, however, that this solution is not a cure-all. There will be several who will fail in this direction as they failed in school, and a few who may possibly end up in some institution or reformatory.

When dealing with delinquent boys, probation officers almost always advise them to go to work when possible, when experience in dealing with such boys suggests to these officers the need of such a method of reformation, which tends to produce a thinking and ambitious young man where there was formerly a thoughtless and indifferent boy. Work in the business world is a real training for these boys, develops latent powers, stabilizes character and actions, and makes them take an active part in their own reformation, which rarely fails to take place.

In summing up, we may argue that to make a legal exception of this type of boy cannot be objected to on the ground of lack of physical development. In this connection we may cite the interesting study that was conducted several years ago by

Dr. C. W. Crampton, director of physical training in our schools. He subjected 4,800 high-school boys to various tests, and the statistics given in Table I are part of his findings.

TABLE I

PHYSIOLOGICAL GROUPS

Age	Immature Percentage	Maturing Percentage	Mature Percentage
14 –14½	26	28	46
14½–15	16	24	60
15 –15½	9	20	71
15½–16	5	10	85

Furthermore, the provisions of the labor law will protect this type of boy from long hours, dangerous occupations, etc. By the time such a boy reaches the fifth or sixth year in his school work, he can read, write, spell, and perform operations in arithmetic of which ordinary business requirements demand a knowledge, besides other academic training which he might have acquired. Will the loss of this short extra training, ordinarily necessary to secure a working certificate and amounting to a year or two perhaps, be a really serious one? Many boys now leave school when they become sixteen, who do not get as far as the seventh year in their school work, or even the sixth or fifth. We would very much desire every child to receive as much academic training as possible, but as it was somewhere naïvely stated, "You can't put a five-dollar education into a five-cent head and some must be manual laborers." We must take a practical view of the whole matter. Moreover, what is to prevent such boys from attending night school as the law now requires all children to do who have not graduated from the elementary school or who are not yet sixteen? Let us further remember that the lack of a complete education does not preclude the possibility of success in business, as is very often proved in business.

Our boy is usually pubescent or post-pubescent. With pubescence there come vast changes in a child's whole life. His changing nature demands different methods of teaching, etc., from that which prepubescent children require. Dr. Bachmann in his report

on "Promotion, Non-promotion and Part-Time" in the *School Inquiry* referred to at the beginning of this discussion, states that "there is general agreement that children cannot be kept with profit under the régime of the elementary school much beyond the period of pubescence."

In his discussion on "Child Labor and Compulsory Education —The School Aspect" in the publication of the National Education Association for 1905, George H. Martin gives the following conclusive arguments:

> We cannot afford to lose sight of a certain profound psychological fact. There comes a time in the life of many boys and girls when the developing instinct of manhood and womanhood appeals to them with commanding force, and impels them to do what men and women are doing, namely, to work for wages instead of doing what children are doing, namely, going to school and playing.
>
> These cases need to be handled with the greatest care. To enact into such a law that such children shall remain children, when their whole nature is crying out for them to be men, is to work a hardship as great as to compel them to be men before their time. Compulsory schooling for them may be as cruel as premature labor is for others. Hundreds of boys and girls who have passed the age of 14 are getting more real development, a better education, in productive labor than they would get in any such school as they will be compelled to attend.

Who is to decide when it is for the best interests of our type of child to go to work? In our own city, the principal of the school could bring the attention of the Bureau of Attendance to such boys. This department, being organized and equipped to make all necessary examinations and investigations, should therefore be given this important power. Other cities could well copy this scheme. In the absence of any such provision, where a boy is on probation owing to his having been brought before a children's court, the power could lie with the judge on recommendation of the probation officer. Again, the principal of the school in consultation with the parents of the child and representatives of various child-welfare agencies could be given this power where no other provision is made for such a condition.

METHODS AND CONTENT OF COURSES IN HISTORY IN THE HIGH SCHOOLS OF THE UNITED STATES

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PART I. ADMINISTRATION OF THE CURRICULUM AND CONTENT OF COURSES IN HISTORY

INTRODUCTION

Extent and sources of data.—The present article is based upon a Master's thesis submitted by the writer to the University of Iowa in June, 1915. The material for Part I was obtained from an examination of 242 of the most recently published courses of study received from 236 cities distributed over 41 states as follows:

From 9 North Atlantic states: 81 cities
From 5 South Atlantic states: 17 cities
From 10 North Central states: 78 cities
From 8 South Central states: 28 cities
From 9 Western states: 32 cities

In addition to an examination of the published courses of study, the writer examined all the available textbooks used in high schools throughout the country, and lastly sent out a questionnaire to the teachers of history in order to get some data on methods of teaching. The data received from the questionnaire will be tabulated in Part II of this article.

The problem was to discover the extent to which the printed courses[1] of study reflected the reports of the various committees of the National Education Association and of the American His-

[1] In the following pages the term "printed courses of study" refers to the published pamphlets sent out by the various schools under the title *Courses of Study*.

The term "curriculum in history" has been used to designate the various kinds of history offered in a given high school, e.g., ancient history, mediaeval and modern history, etc.

The outlines of these specific fields of history will be referred to as "courses in history."

torical Association, and to find out something regarding the prevalent methods of instruction in history.

The printed courses of study were checked as the most convenient method of discovering the prevailing practice in the administration of the curriculum in history. Wherever topics were mentioned, these were tabulated in order to determine as far as possible what the framers of courses in history regard as the important topics for emphasis. The fact that a given topic was specifically mentioned in the courses of study was interpreted to mean that that topic was considered of greater importance than the innumerable other topics given in textbooks.

Criticisms.—It is recognized that the sources of the data for this study are not infallible. There is no absolute proof that the courses in history are invariably followed, but it is believed that this method of treatment will reveal general tendencies and be helpful to teachers, administrators, and supervisors as an index to practice.

The writer recognizes that the field is a broad one, and that this study is only a very limited treatment of a few general topics. It is hoped that the material contained herein may be suggestive and helpful in further investigations in the field of history in secondary schools.

I. ADMINISTRATION OF THE CURRICULUM IN HISTORY

Aim of high-school history.—Before checking up the printed courses of study, a thorough analysis of the reports of the committees of the National Education Association and of the American Historical Association relating to history in secondary schools was made by the writer. The various general aims of history, as stated in these reports, were assembled, and a comparison was made to discover whether or not the makers of courses of study restated the aims mentioned in the reports.

Table I shows the frequency with which aims in the teaching of history were stated in 126 courses of study.

Comparing the statements (Table I, p. 90) with the reports of the committees, it will be noted that in many instances the authors of courses in history were familiar with the reports of the

committees. In several instances the aim was quoted verbatim from the report of the Committee of Seven. Only 126 of the 242 printed courses examined specified an aim in the teaching of history. One predominant aim is purely disciplinary. The committees recognize that discipline is one of the functions of history.

TABLE I

Statement of Aim	Frequency
Knowledge of the development of civilization	42
To develop patriotism and intelligent citizenship	36
To acquire broad sympathies and culture	34
Knowledge of the development of nations	22
To acquire powers of interpretation and judgment	22
To acquire a store of useful facts and historical material	18
To see how our ancestors solved problems in order to help us in the solution of problems	15
To get such a picture of the past as will help us to understand modern life, current events, and present movements	13
An idea of the remoteness of oriental beginnings and of the length and reach of recorded history	11
To develop ideals, national and universal, such as character, initiative, foresight, courage, fortitude, efficiency, genius, etc.	9
To furnish a background for literature and general education	8
To furnish illustrative moral materials	7
A definite knowledge of the names, location, and chronological succession of the early oriental nations	6
To teach the pupils the use of books and how to extract substance from the printed page	6
To develop the memory and imagination	5
To gain power in the systematization of facts	4
Knowledge of the development of democracy	4
To satisfy a conventional demand	4

Scope of the curriculum in history.—Table II shows the kinds of history offered in 242 high schools or high-school systems and the frequency with which the various combinations occur.

The modal combination, it will be noted from this table, is ancient, mediaeval, and modern English and American history and civics, studied in the order named. This combination occurs nearly four times as frequently as the next most frequent combination and more frequently than all other combinations taken

together. This is in accordance with the recommendations of the Committee of Seven, the Committee of Five, and the Commission

TABLE II

Kinds of History	Frequency
Ancient, mediaeval and modern, English, American and civics	135
Ancient, mediaeval and modern, American and civics	36
Ancient, English, American and civics	27
Ancient, mediaeval and modern, English and American	21
Ancient, mediaeval and modern and American	8
Ancient, English and American	4
All others	11
	242

on Accredited Schools and Colleges of the North Central Association of Colleges and Secondary Schools.

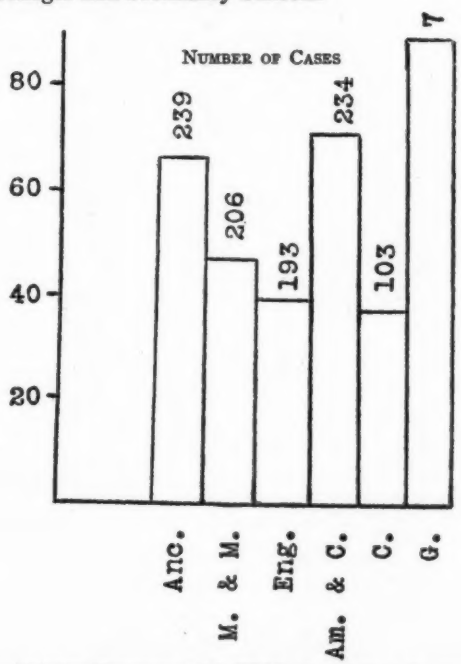

Fig. 1—Relative Frequency with Which the Various Courses in High-School History Are Required Courses.

G. = General history. Am. & C. = American history and Civics. Anc. = Ancient history. M. & M. = Mediaeval and Modern history. C = Civics as a separate course.

Figures at the left indicate percentages of the total number offering the various courses.

Ancient history is predominantly a first-year subject. There is a complaint that Freshmen are too immature for ancient history. The Committee of Five recommends that if the curriculum in history extends over a period of three years it is well to begin in the second year. Mediaeval and modern history is a second-year subject and, like ancient history, is one year in length. English history is predominantly a whole-year course offered in the third year.

In American history and civics nearly half of the schools are disregarding the recommendations of the committees. Both the Committee of Seven and the Committee of Five recommend that they be taught as a single subject, even though there be time for separate courses. The committees also recommend that colonial history should be taught in connection with English and modern European history and that in American history only a rapid survey of this period be made. The published courses show very little evidence that this recommendation is being observed.

Number of units of history offered.—Table III shows the amount of history offered in the high schools of 236 cities in the United

TABLE III

Half-Units	10	9	8	7	6	5	4	3	Cases
Group I*.....	1	0	19	0	4	1	1	0	26
Group II.....	0	2	32	4	15	1	0	0	54
Group III.....	2	4	60	15	25	1	3	1	111
Group IV.....	0	0	17	8	17	2	1	0	45
United States....	3	6	128	27	61	5	5	1	236
Percentages:									
Group I.....	.04	.0	.73	.0	.15	.04	.04	.0	100
Group II.....	.0	.04	.59	.07	.28	.02	.0	.0	100
Group III.....	.02	.03	.54	.13	.23	.01	.03	.01	100
Group IV.....	.0	.0	.38	.18	.38	.04	.02	.0	100
United States...	.01	.02	.55	.11	.26	.02	.02	.01	100

*Group I = Cities of 100,000 population and over
Group II = Cities of 25,001–99,999 population
Group III = Cities of 5,001–25,000 population
Group IV = Cities of 5,000 population and less

States in terms of half-units. This table should be interpreted as follows: of the 26 cities in Group I, 1 city offers 10 half-units of history, none offers 9 half-units, 19 offer 8 half-units, etc. The term "unit" as here used is the meaning applied by the North

Central Association. The lower half of the table is the upper half reduced to percentages. From this table it appears that in 55 per cent of the cases 4 units of history is offered. One-fourth of the cities offer only 3. In the large cities the modal number is 4 units, while in the cities of 5,000 population and less there are two modal numbers of 3 units and 4 units respectively.

Fig. 2 is a graphical representation of the relative frequency of the various amounts of history offered in 236 cities in the United States estimated in half-units.

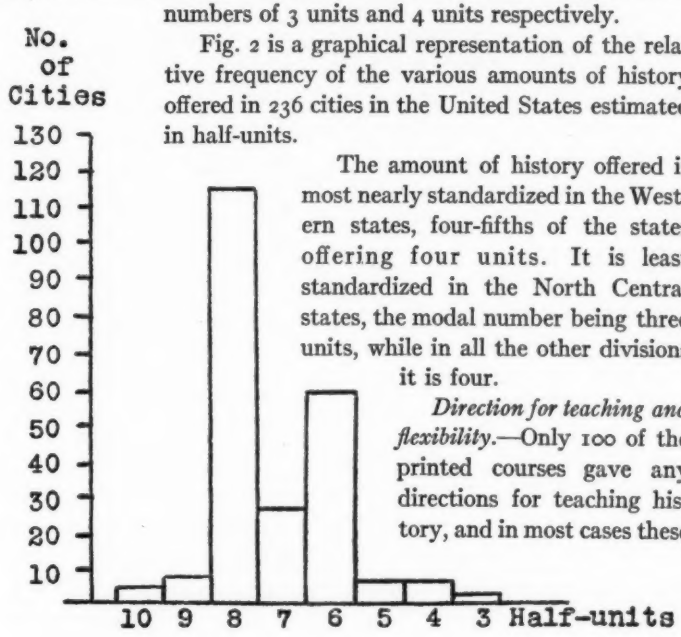

FIG. 2

The amount of history offered is most nearly standardized in the Western states, four-fifths of the states offering four units. It is least standardized in the North Central states, the modal number being three units, while in all the other divisions it is four.

Direction for teaching and flexibility.—Only 100 of the printed courses gave any directions for teaching history, and in most cases these were very general and very brief. Very few references were given as a guide for the teacher, and practically nothing was given as to the relative importance of the various topics mentioned. In only one case were the time allotments definitely specified. The practice seems to be to allow the teacher a great deal of latitude in the presentation of the work. In practically no case was there anything which might be called a syllabus on history. The general tendency seems to be to leave the methods of teaching, as well as the subject-matter, largely to the teaching-staff, and the topics

mentioned for emphasis are very limited in number, with few specifications as to the relative time spent on the various topics. Hence, it seems that there is considerable *opportunity* for flexible courses, but in many cases the textbook is followed so closely that from necessity the courses become very inflexible.

CONTENT OF COURSES IN HISTORY AS REVEALED BY THE PRINTED COURSES OF STUDY

a) *Ancient history.*—The course in ancient history, according to both textbooks and printed courses of study, includes oriental, Greek, and Roman history extending down to 800 A.D. This is in accordance with the reports of the Committee of Seven and the Committee of Five. This committee contends that ancient history must be made simpler and less abstract. Less attention should be paid to the history of institutions, and more time spent upon simple studies of art and habits of life. The committee says in substance that institutional details must give place to pictures and stories of the great deeds and achievements of antiquity.

b) *Oriental nations.*—Very few of the cities report definitely regarding the distribution of time among the three divisions of ancient history. According to the reports of the committees, the study of oriental nations should be completed in four or five weeks. Only six courses incorporate this recommendation. Thirty others, however, indicate "a brief study" of the oriental nations. China, India, and Persia do not receive half as much attention as Egypt, Judea, and the Mesopotamian countries. There is a marked tendency to eliminate China and India, three textbooks giving no space at all to these countries, and one textbook giving only one page or less. An examination of the textbooks gives evidence of disagreement among authors as to what is important. Often three times as much relative space is used by one author on a given topic as is used by another.

c) *Greek history.*—The topic most frequently mentioned for special emphasis in Greek history is "life and culture." This is rather vague and indefinite. Administrators and supervisors should be more specific as to what phases of life and culture should be emphasized. It is rather striking that so much emphasis is given

to wars and dramatic and heroic scenes. This is perhaps due to a prevalent idea that the high-school age is the time when the youth is interested in thrilling events, the drama and heroism. It is well to ask, How much should this interest be encouraged?

d) *Roman history.*—The most significant fact revealed in courses in Roman history was the prominent place given to "law, government, political life, and citizenship," these topics being mentioned in eighty-eight cases. Religious life stood second in the order of frequency. In Roman, as well as in Greek, history the emphasis on military life and wars is maintained. In all these respects practice does not agree with the recommendations of the committees, which specifically say that the course in ancient history should consist of familiar talks and lessons about things that pupils of fourteen can understand; that less emphasis should be placed upon wars (those which mean nothing being entirely omitted) and more attention paid to biography and studies of art.

e) *Mediaeval and modern history.*—In mediaeval and modern history the greatest purpose seems to be to give the pupils a conception of the political history of the principal European states. The topics emphasized in the order of frequency in the courses of study were wars, the church, and Christianity. The severest criticism from the standpoint of the Committee of Five to be passed upon mediaeval and modern history courses is the undue emphasis upon military and constitutional detail.

f) *Nineteenth- and twentieth-century history.*—Only twenty-four courses make any mention of nineteenth-century history. In four cases it was specified that the major emphasis of the course in mediaeval and modern history is placed upon the nineteenth-century period, in one case to the extent of a half-year. Ten of the history courses mentioning nineteenth-century history state that emphasis is placed upon the growth of political and social equality, colonial expansion, and the development of diplomatic relations and national pride and dignity. There is also a tendency to take note of the political conditions in the Orient, the awakening of China and Japan, and the conditions in Africa.

In twenty-one courses some stress is placed upon twentieth-century history by the study of current events. There seems to

be a lack of uniformity as to what should be emphasized in present-day history. The topics of most frequent occurrence are present political and social conditions in European countries and movements for international peace and arbitration. This is all very good if social conditions in European countries are closely related to conditions in our own country.

The writer is inclined to favor the practice of the four schools which place the major emphasis of the course in mediaeval and modern history upon the nineteenth-century period. This is in accordance with the recommendations of the Committee of Nine, which says: "High-school history should always be taught so as to function in a better understanding of modern institutions, current events, and present movements."

g) *English history.*—The three topics which stand out most prominently in English history are: (1) The English constitutional system, including the vast colonial empire, (2) industrial and economic development, and (3) wars, both civil and foreign. While the growth of democracy was specifically mentioned only twelve times, it is a reasonable conjecture that teachers do not unduly neglect this phase of the subject, but it is extremely doubtful whether they give the necessary emphasis to industrial and social evolution. In general, the courses in English history contain some evidence that one aim of the course is to acquire a background for the study of American history, but it is a question whether the background remains until the foreground is formed in the minds of the pupils.

h) *American history and civics.*—Table IV shows the frequency of topics in the different periods as mentioned in 234 courses in American history.

HISTORY AS A REQUIREMENT IN HIGH-SCHOOL STUDIES

In 168 of the published courses of study there was evidence of a differentiated curriculum, there being opportunity for students to pursue different groups of related studies. The writer listed each of these 168 schools separately, showing the names and number of the various groups of studies in each school, and the kinds and amount of history offered in each group. In all, 122 different names of "courses" were found, which were classified into two

TABLE IV

COLONIAL PERIOD

Topics	Frequency
Discovery, exploration, and colonization	16
European background of American history	16
Comparison of northern, middle, and southern colonies	14
Rival claims in America and inter-colonial wars	7
Character of the colonists	6
Brief study of this period	3
Causes for American ideal of government	2

CRITICAL PERIOD

Revolutionary War: causes and resulting problems	25
Formation of the Constitution	22
Confederation, or inter-colonial union	14
Constitutional and national development	13
Trouble with France and England	7

NATIONAL PERIOD

Commercial, industrial, and economic development	40
Political development: rise of parties and politics	29
Slavery states' rights, Civil War, and reconstruction	24
Current history, or current events	19
Local history (special emphasis)	12
Present position of the United States as a world-power	9
Tracing of causes and effects	8
Rise and growth of democracy	7
American biography	6
Spanish-American War and its results	6
Federalist supremacy and decline	4
War of 1812: struggle for neutral rights	3
Educational development	3
Monroe Doctrine	2

PERSISTENT PROBLEMS

Acquisition of new territory, expansion, imperialism	32
Tariff, its history and present status	18
Currency and banking	9
Westward movement and its effects	8
Civil service, and the spoils system	8
Internal improvement: waterways, railroads, transportation, conservation, reclamation, etc.	8
Trusts and their regulation	7
The race question	5
Army and navy problems	3
Economic and commercial problems (Panama Canal)	3
Labor unions and relations of labor and capital	3
Immigration	3
Development of ideals: political, social, and industrial	2
Equal suffrage	1
Peace movement	1
Disposal of public lands	1

general groups: (1) College preparatory courses, and (2) vocational courses. Then (1) was divided into language courses and general and special preparatory courses and (2) was divided into regular four-year vocational courses and vocational short courses.

It was found that by using this scheme of classification and combining all courses of a similar nature, all of the 122 could be arranged in 24 groups as follows: Commercial (137),[1] general or academic (99), scientific (87), classical (77), general vocational (55), home economics (49), normal (49), English (45), technical (43), Latin (40), modern language (34), manual training (34), industrial (29), agriculture (21), two-year commercial (18), fine arts (12), engineering (10), history special (10), two-year industrial (10), Latin-modern language (9), two-year home economics (6), one-year vocational (5), music (4), three-year commercial (3).

The object of this classification was to determine the kinds and amount of history required for the different classes of training.

In the general college-preparatory studies only one unit of history is the modal requirement, as also in the academic, scientific, technical, fine arts, and engineering groups. In the four latter groups this unit is most frequently American history, while in the former there is a slight preference for ancient history. In the classical and normal groups a requirement of two units is the prevailing number, ancient and American in the former, and American and one other unit in the latter.

Where a special history group is offered, four units is the modal requirement. In the language groups there was great variability in the amount of history required. In the English group four units are required, in the Latin group two units, consisting of ancient and American history, and in the modern language group one unit of American history. In practically all of the regular four-year vocational groups, one unit of American history is the prevailing requirement. There is a marked tendency to introduce industrial history into the list of studies preparing for general industrial pursuits. In vocational short courses the custom seems to be no history as an absolute requirement.

[1] Numbers in parentheses indicate the frequency of occurrence in the published courses of study of 168 high schools of the group of studies capable of being classified under these various headings.

SUMMARY AND CONCLUSIONS

The following are the main general conclusions deduced from Part I of this article:

I. *As to the administration of courses in history.*—

1. The aim of history is seldom stated, and when stated is often not clearly defined in the printed courses of study. In many cases the statement of aim reflects the reports of the committees.

2. The printed courses of study reflect the reports of the committees with respect to the kinds of history offered. More than half of the schools offer a four-year course consisting of ancient, mediaeval and modern, English, and American history and civics, studied in the order named.

3. More schools offer a course in ancient history than in any other, American history following as a close second.

4. Only a few schools continue to offer a course in general history. The recommendations of the committees have been followed quite generally in abolishing this course. Wherever offered it is usually a required course.

5. With the exception of general history, the most frequently required course is American history and civics, ancient history following as a close second.

6. The modal number of units of history offered in cities above 5,000 population is four, and in cities of 5,000 population and less there are two modal numbers of three and four units, respectively.

7. With respect to length, courses in history are most nearly standardized in the Western states, and least standardized in the North Central states.

II. *As to content of courses in history.*—

1. The recommendations of the committees that ancient history shall include oriental, Greek, and Roman history have been adopted. The recommendation to continue ancient history to 800 A.D. has attracted most attention.

2. The tendency in ancient history is to spend four or five weeks on oriental history, the remainder of the semester on Greek history, and the second semester on Roman history. This is in accordance with the recommendations of the committees.

3. The recommendations of the committees that less attention be given to military and constitutional detail apparently have not been adopted. Wars, dramatic and heroic scenes, religious, political, and constitutional development still occupy a prominent place in all courses in history. The committees advocate greater simplicity of treatment through plain talks and concrete materials.

4. In mediaeval and modern history the Committee of Nine recommends that the greatest emphasis should be placed upon nineteenth- and twentieth-century history. The printed courses of study show very little evidence that this recommendation has been adopted.

5. Both the Committee of Seven and the Committee of Five recommend that American history and civics be taught as a single subject. In 103 of the 242 schools or school systems civics is still taught as a separate course.

6. The committees recommend that colonial history should be taught in connection with English and modern European history, and in American history only a rapid survey should be made of this period. The printed courses show very little evidence that this recommendation has been observed.

7. In the general college-preparatory group of studies the modal requirement is one unit of American history, except in the classical and normal groups, where two units is the prevailing requirement. Some schools offer a special history "course" in which four years is the modal requirement.

8. In the language group of studies there is great variability in the amount of history required, the custom being four units of history in English "courses," two units (ancient and American) in Latin "courses," and one unit (American history) in modern language "courses."

9. In the four-year vocational group of studies one unit (American history) is the prevailing requirement. In vocational short "courses" the custom is to require no history.

LITERATURE À LA CARTE

JOHN B. OPDYCKE

Dining is a physical job.

Dining *à la carte* is an open job.

Dining *table d'hôte* is a blind-alley job.

If the present shortage in the European food supply has reduced the pageantry of dining over there, then certainly it is not an unmixed evil.

The Continental *table d'hôte* system used to be the one best argument for fasting; it still is if it still *is*.

Three years ago *table d'hôting* on the Continent was a ceremony —an intricate and elaborate form of culinary worship that was not only military in its administration, but also well-nigh martial in its execution.

From the anchovies to the *crème de menthe* (*vert, frappé*) the diner was kept ever conscious of the system. Not for a moment was he allowed to forget the lockstep mastication superimposed by the management of his *pension*. His good digestion (what paradox!) waited not on appetite, but on ritual. His menu was the be-all and the end-all of his craving for nourishment. Dining for him was become a fetish of formula; eating, a syncopated symphony as a matter of course—as a matter of many courses. His retinue of viands was served *à la rag*.

What then was more natural than that syncopated music and syncopated dancing should develop as accompaniments to syncopated feeding?

Whatever may be the doubts as to the priority in time of the egg and the chicken, there can be no doubt but that the cabaret is the legitimate child of the *table d'hôte*. It is but the echo of collective gormandizing, the consciousness of chewing set *en tempo*, the inevitable tintinnabulation of the music as it wells from the chorus of *table d'hôters*, the rhythmic reverberations of gastric gratification in the blissful, if blatant, consciousness of its bellyhood. Such was the distinguished origin of the grabaway cabaret!

A bell rings! A chord is struck! In march the stewards to a stately air bearing high the viands of the first despair. They may not go, they may not come again, until the chief rings his bell, the musicianeers strike their chord, and the stewards mark time in perfect unison. Even unto the fifteenth and twentieth generations of a single dinner is the ceremony visited in exactly the same manner, at exactly the same time per course per day, to exactly the same people. No mere mortal of a diner dares to be late, or the whole domestic machinery may be thrown out of gear and a conference of heads, from the scrubberial to the managerial, be necessitated. The culprit responsible for such a calamity should be made the subject of national scorn. For a mere diner to abstain from this viand or that were sufficient cause for exile to Siberia! At a certain hour the people throughout an empire must eat fish. At a certain time every day the emperor of a kingdom must be able to say to the dining members of his dining council, "Behold, at this moment my subjects are *demi tassing!*"

Discipline! Discipline in matters masticatory as in matters military! Discipline in matters intestinal as in matters international! Discipline in matters palatable as in matters political! Discipline!

The pompus parade of provender moves apace.

With many people the *table d'hôte* has become more than a habit; it has become a state of mind.

The Teutonic military method is a phase of *table d'hôte* frenzy.

And this prevalence of the *table d'hôte* tendency is not surprising when it is remembered that, though efficient as a system, it is nevertheless a very lazy, a very convenient, and therefore a very human way of getting a job done.

By this system the kitchen force of a establishment tells a man what, when, where, and how he must eat. He has to think about nothing whatever—nothing, that is, but a bill at the conclusion of the exercise, a tip after that, and perhaps, *probably*, some equatorial discomfort later on.

But *table d'hôting* is distinctly an adult process. It presupposes a sophistication in digestive operation, a tolerance in digestive receptiveness, a cosmopolitanism in digestive grasp, that the organism of a child could not possibly be possessed of.

Glutton though a child may be, he nevertheless objects to having his gluttony library-bureaued. The love of selection is a predominant quality of childhood and adolescence. Apportionment that is satisfactory to a young person is a miracle. More, apportionment made for children by adults that is appropriate and wholesome is as rare as it is miraculous.

Youth is the *à la carte* period of life; adulthood, the *table d'hôte* period. But the one is always trying to impose his point of view upon the other, and the adult, being the stronger and the one in authority, usually prevails to the greater degree, oftentimes to his own embarrassment and undoing.

Freedom of choice as well as freedom in choice belongs pre-eminently to youth, and this is so, must be so, even though the very exercise of freedom may bring pain and cause trouble subsequently.

> If *table d'hôting* you would go,
> Your appetite must be just so;
> If *à la carte* you masticate,
> Your appetite may fluctuate.

Adults are *just-so* people; children are fluctuators.

The regular, laid-out, cut-and-dried *table d'hôte* perpetuates a monotony of status in the nether physical regions and allows but narrow margins for wholesome contractions and expansions. It holds to a monarchical régime; it assumes assimilation by royal command.

The free, fluctuating, catch-as-catch-can *à la carte* is as elastic in its possibilities as the digestive organism of youth itself. It is accordingly democratic. It assumes nothing; indeed, it often entails anarchy, revolution, and bombastication of the in'ards! But then—to be free!

A syllabus is an educational *table d'hôte*, an adult concoction the ingredients for which are assembled, mixed, and served for the mental digestion of the young.

A curriculum is a collection of syllabi; in other words, a mobilization of educational *table d'hôtes*.

A school is the battlefield of the contending forces—the place where adult prescription contends with juvenile tactic, where *table d'hôte* preparedness and *à la carte* maneuver fight it out,

where strategy in storage and strategy on the spur out do themselves in combat.

The conceit of adulthood is nowhere more apparent, nowhere more assertive, than in its formulation of studies for the young. It *lays out* what it thinks pupils ought to study, how it thinks youth ought to study, and then tries to force the issue. It disregards to an astounding degree the things youth wants. It strangely enough forgets its own *à la carte* period in its *table d'hôte* maturity. And thus it renders the educational fare administered both unpalatable and indigestible.

Color, motion, animals, plants, objects, pictures, contests, contrasts, freedom, *yeas*—it is these youth would order from an *à la carte* menu in education.

Compliance, exactness, abstraction, sameness, inflexibility, nicety, books, words, don'ts, *nays*—it is these adults serve up on their *table d'hôte* menu in education.

Algebra, history, grammar, and, worst of all, cut-and-dried, *table d'hôte* reading—these canned products, these indigestibles, these ptomaines for the adolescent passionists and *à la cartists!* Give them liberty or give them these!

There is consequently a wholesale foundering and a complete set of hospital schools—schools for defectives, for atypicals, for waywards, for arrested developments, and so on.

Next in order of establishment must be schools for the haters of reading.

Reading is a mental and emotional job.

Reading *à la carte* is an open job.

Reading *table d'hôte* is a blind-alley job.

It is with the reading laid out for the young that the syllabists, the educational *table d'hôters,* do the greatest harm.

Not liking an edible is the best reason in the world for not eating it.

Not liking a book is the best reason in the world for not reading it.

But certain books must be read for discipline, say the *table d'hôters,* and so they prescribe *adult* books and recommend *adult* methods for their treatment in the classroom.

More than this—they follow out the *table d'hôte* régime to the last measure of its syncopating possibilities. Certain books are read and studied at certain specified times and in certain specified ways. It is easy to find whole statefuls of children analyzing the same poem at the same time in the same way—and concluding it with the same dislike! Not so very long ago a somewhat distinguished state superintendent said, pointing to a clock in his office, "Thirty-five thousand children at this present moment are answering this question."

He pointed to a question on the examination paper in his hand which read as follows: "Why did Godfrey Cass desert Molly Ferran?"

Thus were thirty-five thousand in the prime of life led to dabble with the crime of life as a result of the educational *table d'hôte* by which they had been victimized.

That theory that extols study primarily as discipline is extremely pluperfect; it is held only by the most pronounced *table d'hôte* thinkers. To study something just because it will do you good is to take castor oil intellectually or psychologically, or both. Put into practice in the study of literature, such a theory acts as a chronic emetic. Pupils in the higher elementary grades and in the high school need the literature that they like, need literature *à la carte* if they are to have any permanent benefit from it or liking for it.

There are three attitudes among pupils of these grades toward literature and reading. The majority do not like the books they are given to read. Some are keen to read books other than those used in the classroom. A few resign themselves and read thoroughly, if not keenly, the prescribed books.

In other words:

> Some hae meat and canna eat,
> And some would eat that want it;
> But we have meat and we can eat,
> And sae the Lord be thankit.

What is meat for one may be poison for another.

Literature *à la carte* will enable all to have the meat they like and are able to digest and enjoy.

Dr. Corson of Cornell proved years ago that the one best method of inculcating a genuine love for literature, as far as college students and adults are concerned, is the *à la carte* method—the reading aloud of the best prose and poetry to large groups.

Professor Copeland of Harvard is today proving the same method to be supreme—witness the attendance upon his readings and the after-attack upon the libraries.

The very same method may be used with high-school pupils, is being used with them in certain schools, with results that are vastly superior to those under the old *table d'hôte* system. Large bodies of pupils—sometimes as many as two and three hundred—are assembled two or three times a week. Literature of *their age* is read to them, along with the high spots—the youthful spots—in their prescribed books. There is no close analysis, no high-brow discussion such as the suburban Browning Society indulges when it meets of an evenin' to "do" Browning's *The Ring and the Book*.

The aims simply are to inculcate a human attitude toward literature and a natural, wholesome, sincere appreciation of it.

The means simply are the auditory appeal, the principle of mob psychology, and great discernment in the selection and grouping of readings.

Most of the literature pupils are required to read is too remote from their experience, too far removed from their point of view, too difficult for their mental digestion. The *à la carte* plan makes it possible for them to start on a simple, native fare and to work up gradually to a more complex, more ambitious menu.

Thus, "Casey at the Bat" may be an excellent beginning for a group of readings that deal with the subject of rivalry or contest, a subject always near to the heart of youth. This may be followed with Fred Emerson Brooks's "Old Ace"; this, in turn, with "How They Brought the Good News from Ghent to Aix," and "The Chariot Race" from *Ben Hur;* and the series may be fitly concluded with "Pheidippides."

This last is not always an easy poem for young people; it is not always, indeed, a likable poem. But placed at the conclusion of such a series it has been found to work marvels with those very pupils who could not have been reached by it except through some

such association. They are soon able to see that certain elements in the make-up of "Casey" were exemplified centuries ago in his Greek ancestor. On one definite occasion, after reading "Pheidippides" in this connection, they stormed the librarian for more "Marathon pomes."

From some such starting-point it is an easy matter to get pupils to initiate their own reading groups, their "squads of stories and poems." They are able to construct an *à la carte* menu in literature that is far better for their emotional enjoyment and intellectual nourishment than much of the stuff served up by their adult benefactors and well-wishers.

In one large *en masse* group of pupils it was found that seventeen different nationalities were represented. It was suggested that poems or short stories fairly representative of these different nationalities be procured and read. The result was most gratifying and inspiring. *Mother Goose* was present in many dialects and languages. Fairies, harpies, elves, trolls, kelpies, brownies, nixies, pixies, hobgoblins, urchins, and a host of other "invisibles" from various lands were likewise on hand. It was a promiscuous assembly of literary stars that entertained the group for two or three meetings, but the effects were pleasing and instructive beyond all anticipation.

A few of the other groups that have been worked out with excellent results are here set down. Each group was calculated to cover about an hour, but, as the titles will indicate, the work frequently ran over the allotted time.

A GROUP OF SEA POETRY

Kingsley's "The Three Fishers"
Clough's "Where Lies the Land"
Miller's "Columbus"
Proctor's "The Sea"
Masefield's "Ships" and "Sea Fever"
Cunningham's "A Sea Song"
Longfellow's "The Wreck of the Hesperus"
Tennyson's "Break, Break, Break"

A GROUP OF BABY POETRY

George Macdonald's "Baby"
Alfred Austin's "Mother-Song"

Swinburne's "Etude Realiste"
Holland's "Babyhood"
Riley's "The Way the Baby Woke" and "The Way the Baby Slept"
Samuel Minturn Peck's "My Little Girl"
Selections from Josephine Preston Peabody and Robert Louis Stevenson

A GROUP OF ANIMAL POETRY

Elizabeth Barrett Browning's "To Flush, My Dog"
Arnold's "Geist's Grave"
Foley's "A Friend"
Browning's "Tray"
Trowbridge's "The Vagabonds"
Guiterman's "The Legend of the First Cam-u-el" and others
Byron's "Inscription on the Monument of a Newfoundland Dog"
Gray's "On a Favorite Cat"

ONOMATOPOETIC POETRY

Poe's "The Bells" and "The Raven"
Browning's "Thru the Metidja to Abd-El-Kadr"
Hood's "Miss Kilmansegg" (the conclusion—"Gold")
Lanier's "Song of the Chattahoochee"
Noyes's "The Barrel Organ"
Riley's "Knee Deep in June" and others
Selections from Wells's *Nonsense Anthology*

AN HOUR WITH EUGENE FIELD

(Typical of "hours" with many poets and prose writers)

In Memoriam
The Ballad of the Phillaloo
In Memoriam of Mary Jane
Love's Sacrifice
A Leap Year Proposal
To Emma Abbott
Remorse
The False Orlando
A Story with an Awful Moral
Casey's Table d'Hôte

WAR STORIES

Alphonse Daudet's "The Last Lesson"
Percy Godfrey Savage's "Somewhere in Belgium"
Joseph Hall's "N.B."
Hornell Hart's "The Forced March"
Prosper Merimee's "The Taking of the Redoubt"
Kipling's "The Drums of the Fore and Aft"
George Cary Eggleston's "A Breach of Etiquette"
De Maupassant's "La Mere Sauvage"

BUSINESS STORIES

Edna Ferber's "The Self Starter"
Frank M. O'Brien's "Master of His Art"
Chap. iii in Frank Norris' *The Pit*
Redfield Ingalls' "Business and Ethics"
Henry Murger's "The Passage of the Red Sea"
Thomas F. Hoyne's "The Ego of the Metropolis" (newspaper)
Ludovic Halevy's "My Nephew Joseph" (newspaper)
Selections from Jack Lait's *Beef, Iron and Wine* (newspaper)

CHRISTMAS STORIES

Mary N. Murfree's "His Christmas Miracle" in *The Road of the Guerilla*
W. J. Locke's "A Christmas Mystery"
Thomas Bailey Aldrich's "A Christmas Phantasy"
O. Henry's "A Chaparral Christmas Gift"
Selections from Jack Lait's *Beef, Iron and Wine*
Selections from Dickinson's *Children's Book of Christmas Stories*, such as, Grace Margaret Gallager's "The Queerest Christmas"; Olive Thome Miller's "Christmas under the Snow," and others

CAT STORIES

Virginia West's "The Cat That Came Back"
Wilbur Daniel Steele's "The Yellow Cat"
Marcel Prevost's "The Woman and the Cat"
Selections from Mary E. Wilkins-Freeman's *Understudies*
Kipling's "The Maltese Cat"

DOG STORIES

Selections from John Muir's *Stickeen*
Selections from Alfred Ollivant's *Bob, Son of Battle*
Selections from Eleanor Atkinson's *Grayfriars Bobby*
Selections from Ouida's *A Dog of Flanders*
Selections from Brown's *Rab and His Friends*
John A. Moroso's "Buddy and Waffles"
Francis Gregg's "Whose Dog—?"
Chap. iii in Jack London's *Call of the Wild*
Richard Harding Davis' "Love Me, Love My Dog" (from *Van Bibber*)
Selections from Mark Twain's "A Dog's Tale"
Thomas Bailey Aldrich's "Goliath" (From *Two Bites at a Cherry*)
Harry C. Goodwin's "The Bad Man"
John Galsworthy's "Memories"

STORIES OF RIVALRY

Richard Harding Davis' "Mr. Travers' First Hunt" (From *Van Bibber*)
From Dickens' *Pickwick Papers*, "Mr. Winkle on Skates" and "Mr. Winkle Goes Gunning"

From Lew Wallace's *Ben Hur* "The Chariot Race"
Chap. xv in Henry A. Shute's *Plupy*
Contests in marksmanship such as, the archery contest in *Ivanhoe* and the shooting contest in *The Last of the Mohicans*

SCHOOL STORIES

Josephine Meyer's "The Green C—"
Any chapter or chapters from Kate Douglas Wiggin's *The Story of Patsy*
Selections from Kipling's *Stalkey and Co.*
Chap. i in Brontë's *Jane Eyre*
Selections from Dickens' *Nicholas Nickleby*
Latter part of chapter vi in Hughes' *Tom Brown's School Days*
Chap. ix in Dickens' *Oliver Twist*
Chap. ii in Mitchell's *Hugh Wynne*
"The Cuff Doblin Fight" in Thackeray's *Vanity Fair*
"The Hanky School" in *Sentimental Tommy*
Chap. v in Kate Douglas Wiggin's *Rebecca of Sunnybrook Farm*

DRESS STORIES

Chap. viii in Kate Douglas Wiggin's *Rebecca of Sunnybrook Farm*
Ethel M. Kelley's "Making over Mary"
Fannie Kilbourne's "Being like Nita"
Katherine Kingsley Crosby's "The Pink Slipper"

TRAIN STORIES

Selections from Booth Tarkington's *Great K. and A. Train Robbery*
Selections from Webster's *Calumet K*
Frank W. Tuttle's "On the Local Express"
O. Henry's "The Hiding of Black Bill"
Lynn Roby Meekins' "Freckles"

In addition to these the best chapters or sections from all the required books are read as above indicated. What adult outside of the *table d'hôte* class reads *Ivanhoe through* today? There are about ten chapters in the novel that are enjoyable and helpful for *en masse* treatment. The rest of the story is negligible except for purposes of plot connection. These salients are served up *à la carte*, as are likewise the best parts of *Silas Marner*, *The Sketch Book*, *The House of the Seven Gables*, *The Tale of Two Cities*, *Sir Roger DeCoverley*, and the rest.

Poe's dictum regarding mere length in a piece of literature bears with particular significance upon the reading aloud of a story or a poem or a play. The longer works are all *à-la-cartable*

for purposes of adolescent consumption and are really the better for such cutting. The pulsating passages only must be read. If less throbbing passages get read too, well and good; it not, also well and good.

The intensive study of a literature classic never begets an intensive appreciation of that classic. It frequently begets an intensive hatred. If called upon to parse Milton's *Paradise Lost*, one may get certain satisfactions out of it by way of calling God a mere noun or by pointing out that such a disagreeable thing as a participle may modify the Devil. But there are no other satisfactions in such a study, and certainly there are no benefits to be derived from it.

But there is a free and wholesome contagion that follows from the *à la carte, en masse* plan of presenting the gems of literature. And the results are vastly more permanent and impressive, even though they do sometimes come by the "doggerel" route. The laughs are bigger and grander; the "weeps" are deeper and wetter, and all of the emotions between the two are truer and more spontaneous by virtue of the plan and the situation. Incidentally, the arrangement is economical, for one good reader may do the work of four or five teachers. (This may be why some of them call it literature *in mess!*)

It is said that literature is a thing of the spirit.

It may be said, then, that examinations are a thing of the flesh.

Who of the flesh shall attempt to examine with success into the things of the spirit therefore?

Verily, the books that pupils love, neither God nor man can fail them in; and the books they do not love, surely no one wants to pass them in.

As well examine a Continental diner closely on the food values and constituencies of his *table d'hôte* as to examine a child on the book he has read. It is safe to leave digestion to itself if the dinner has been wholesome.

Children no longer love bad literature (if there can be such a paradoxical thing). They no longer wallow in the slime of the penny dreadfuls. "Nick Carter" is dead and done with—Glory be! The better literary fare has been supplied so cheaply and so

abundantly that it is almost safe to say that a child may read anything.

Better than all is the fact that children do not love the seamy sex stuff that even educators serve up to them. A teacher who has done the *en masse* work in literature in a large high school for two years, and who has received hundreds of requests to read certain selections, has never yet been asked to read a tainted bit, has never even been asked about literature of that sort. On the other hand, he has read to large groups of girls passages of questionable delicacy from the prescribed books without any unpleasant reactions whatever and without the slightest tendency toward misinterpretation.

Queer, by the way, that the reading recommended by the *table d'hôte* adults for the young should have *to a book* something objectionable in them, usually on the sex problem.

Queer, too, that in the *à la carte* treatment of literature in high school this phase does not present itself at all?

No. The explanation is just exactly the difference between the two systems of dining.

The *table d'hôte* system is narrow and confined and bigoted and artificial; it makes the market wait upon its form and formula; its variety is limited by tradition; its scope, by season and locality. It seeks out food types and plays them up always in the same dress. It thrives upon the storage-houses of the world.

The *à la carte* system, on the other hand, is free and fresh and eclectic; wide-range in its choice; appetizing in its variety; waits upon markets and seasons and localities the whole world over and draws from them accordingly. It seeks out individual delicacies and plays them up. It thrives upon the gardens of the world.

Now, there may be some exaggeration in all this comparison, kind reader, but it is only the exaggeration of the truth; it is not by any means a manufacture from the whole cloth. And for corrective purposes it is as justifiable an exaggeration as is that of the microscope, the telescope, or the X-ray.

STANDARDIZED TESTS AND THE IMPROVEMENT OF TEACHING IN FIRST-YEAR ALGEBRA[1]

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A. NECESSARY CRITERIA FOR A PROGRAM FOR THE IMPROVEMENT OF INSTRUCTION

It is possible to attack the problem of the improvement of instruction in a high-school subject in a scientific experimental way. To do so in the most complete fashion will necessitate the setting up of a thoroughgoing program embracing the following steps:

1. Stating definitely the aims and outcomes of instruction in the particular course of study.

2. Classifying clearly the subject-matter of the course on a basis of the principal modes of learning involved in its mastery; a statement of the content of the course, from a standpoint both of the amount of material included and of the classification, arrangement, and order of presentation, supplemented by a detailed analysis of the mental processes called into play by different types of subject-matter.

3. *Designing and giving tests which will adequately measure ability in each of the fundamental phases of the subject-matter agreed upon.*

4. Critically evaluating the testing so as to give a complete and differentiated statement of fundamental weaknesses in learning (e.g., as revealed by the typical errors made by pupils).

5. Setting up experimental attempts to eliminate these fundamental weaknesses; from the standpoint of economy of time this

[1] A final report on the "Experimental Determination of Standards in First Year Algebra," made to the Mathematics Section of the University of Illinois High-School Conference, November 24, 1916.

means *the design of practice exercises, the determination of specific "best ways" of presenting material, of order of presentation, and of optimum length of drills.*

In brief, the writers have carried through to completion the first four steps of this program and have begun work on the fifth step. We believe that sufficiently adequate standards have been set up to enable teachers to attack the problems of teaching first-year algebra in a thoroughly experimental way. We suggest careful consideration of the results of the work to date, and the thoroughgoing co-operation of teachers of algebra generally, in improving instruction in the subject.

I. THE AIMS AND OUTCOMES OF INSTRUCTION

The first step in the program of improving teaching in first-year algebra involves the definite statement of the aims and outcomes of instruction. In the preliminary report of this investigation (see *School Review*, January, 1916) we made a complete statement of these aims and outcomes as follows:

a) THE AIM OF FIRST-YEAR ALGEBRA INSTRUCTION

The conduct of this investigation is based upon the following statement of the ultimate aim of first-year algebra: the successful use of algebraic symbolism in meeting new problem-situations, either (1) purely algebraic situations; (2) general mathematical situations (such as are found in mathematics courses other than algebra); or (3) non-symbolic situations, including various types of "practical" or "applied" problems not expressed in mathematical language.

b) THE OUTCOMES OF FIRST-YEAR ALGEBRA

Believing that some statement of the assumed outcomes of first-year algebra should be made the basis for further analysis, the following tentative statement of these outcomes is made:

A. *Immediate, specific, and preparatory outcomes.*—These include the comprehension, interpretation, and manipulation of the specific "automatic" operations involved in algebraic solutions; e.g., the four fundamentals as used with various type problems, factoring, removal of parentheses, etc. Certain of these are to be used in many specific algebra problems and in the solution of other mathematical problems; they are to be mastered as tools, preparatory to the taking of other mathematical courses, as well as for use as automatic tools for the solution of all types of "applied" problems. These involve primarily the learning of rules and the formation of specific habits of manipulation.

B. *Immediate generalized outcomes.*—These involve recourse to selective, analytic, and conceptualizing abilities; ability to apply principles, in addition to ability to remember rules and to make certain fundamental habitual adjustments in the solution of general practical and applied problems and in solution of problems belonging primarily to other mathematical fields.

C. *Remote and less tangible outcomes.*—The development of the ability to deal with general number concepts and "think quantitatively"; the development of attitudes of (1) orientation in algebraic or general mathematical fields containing problem-situations; (2) confidence in one's ability to use successfully algebraic symbols in meeting new situations; (3) a broadened intellectual background or perspective for the general cultural comprehension and interpretation of the scientific methods by which technical problems may be solved, i.e., the development of a "scientific attitude." In the present attack on the general problem of standards in this field it is not proposed to consider this third group of outcomes. Standards in first-year algebra, we believe, should deal primarily with the "automatic" processes and only very little with these other more indefinite ones. We would differentiate these three types of outcome by saying that the immediate specific and generalized outcomes are subject to measurement, and that for our purposes the intangible outcomes are not.

The foregoing statement, made in the preliminary report, was doubtless misunderstood by many teachers of algebra. The commonly accepted inference was that "standardization," according to our aims, methods, and criteria, meant complete "mechanization" of first-year algebra instruction. Nothing is farther from the truth concerning our real position than that. For that reason we wish to emphasize herewith: *Our position—the fundamental aim of first-year algebra: to develop ability to use algebraic methods in the solution of "original" or "novel" problems stated in verbal form.* Three years of research in this field has convinced us, however, that *efficiency in the solution of "original problems" is closely correlated with a thorough mastery of each of the tool operations.* This report will present detailed evidence on this point.

It has been shown that success in teaching algebra depends primarily on the teacher's knowledge of the typical difficulties which the pupils will meet in learning algebra. These difficulties may be found by testing the pupils' ability to manipulate the different formal operations and to use these in the solution of "translation" problems. To design tests for these operations necessitates a clear-cut statement and classification of the formal

operations themselves. The committee now wishes to go on record as stating its belief that the *fundamental formal operations* of first-year algebra, ability in which should be tested, are those given in the following pages and that *ability in the manipulation of each of these should be made absolutely automatic.*

The necessity for automatic efficiency in the formal processes.—Teachers agree: that pupils must have *automatic* skill in manipulating the "tables" in arithmetic; that the spelling of "common words" shall be absolutely mastered (*automatized*) so that pupils will *never* make a mistake in spelling them; that a certain quality of handwriting shall be written by our pupils at a definite speed and that it shall be done *automatically;* that pupils shall perfect certain "*automatic*" *habits* of "reading" in the early years so that lessons in history and geography and literature shall not be turned into lessons in the development of the formal skill in getting meaning from the printed page.

In the same way, in order that the pupil may use successfully algebraic methods in the solution of verbally stated problems, he must have absolute mastery of the tool operations he is going to use in that solution. A pupil should remove parentheses, factor, solve simple equations, use special products, exponents, radicals, etc., just as he uses the multiplication table, writes, spells, or gets meaning from written language—*in a word, automatically.* It is not economic or expedient to force pupils to raise to "thinking" or "reasoning" levels, the formal manipulation of these purely tool operations. The Committee on Standards is, therefore, insisting on thoroughness in the formal operations, in the interest of "*economy of time*" *in first-year algebra; in other words, in order that a larger amount of time may be spent in the use of the formal operations in solving "original" problems.* This report will show methods by which, it is believed, this may be done.

The reader should be cautioned that "automatism" in the more complex processes (e.g., fractional equations) does not necessarily imply the instantaneous reaction of the pupil with the completely worked-out "answer" to the problem. In the case of problems containing but one or two steps the automatic response should be the "answer." But, in the cases of problems involving

several steps, *automatism means the continuous unbroken reaction of the pupil with the proper steps in the solution.* The steps in the procedure of manipulation of the operation in question should be made completely a part of his automatic system of habits.

II. THE CONTENT OF FIRST-YEAR ALGEBRA

Our program next demands a complete classification of the content of first-year algebra. We have differentiated sharply the content of algebra between the formal processes of algebra and their application in verbal problems. Our preliminary investigation has shown that to test adequately the algebraic abilities of pupils in the use of algebraic symbolism in "original situations" *we must draw a sharp line between abilities in the formal processes and abilities in their application.*[1] The former may be measured by one type of test, *a formal time test,* the latter by another type, *the translation verbal test,* in which it is questionable whether there should be an "active" time limit. We give next a mere list of:

a) The fundamental operations of first-year algebra ability in which should be tested.—

1. Removal of parentheses
2. Combining terms
3. Subtraction
4. Evaluation
5. Special products
6. Factoring
7. Exponents
8. Clearing of fractions and fractional equations
9. Quadratic equations
10. Graphing of equations
11. Solution of "practical" formulae
12. Simultaneous equations

Mr. E. C. Denny, of the Illinois Committee on Standards, has made a very complete analysis of the content of first-year algebra as shown by currently used textbooks and the distribution of problems that indicate the types of opportunity for training which are now offered. It is expected that this report will be published separately; therefore the material will not be duplicated here. We may say in brief that the material collected in this phase of the work of the committee has been used to check up the organization of content and the interpretation of the results of testing pupils. His data lend added weight to our conclusions.

[1] See *School Review,* January, 1916, preliminary report of the Committee on Standards in First-Year Algebra.

b) The types of verbal problems represented by our study.—Verbal problems may be classified on two bases: (1) on the basis of degree of equations involved and the number of unknowns; (2) on the basis of the subject-matter composing the problems. The latter basis lends itself more easily to the design and classification of verbal problems for purposes of testing and was used in this investigation. The problems for which "scoring weights" have been worked out in this study fall under the following heads: (1) geometry problems (area, perimeter, angle, line, and volume problems); (2) physics problems (temperature, lever, falling bodies, formulae for sound, light, etc.); (3) motion problems; (4) problems involving ratio and proportion; (5) coin problems; (6) work problems; (7) mixture problems; (8) digit and number problems; (9) age problems; (10) clock problems; (11) percentage problems.

III. THE STANDARDIZED TESTS IN FIRST-YEAR ALGEBRA

The statement of the aims and outcomes of instruction and the content of the subject-matter paves the way for the design of tests for each of the fundamental operations. Our report[1] for 1915 treated fully the important question of *the determination of a valid method for measuring efficiency in the formal processes and in their application in verbal problems.* It was shown there (1) that the teacher-judgment method did not lead to an accurate determination of the difficulty of algebra problems; (2) that "mixed scales," containing both formal and translation problems, are not valid measures of the single types of mental processes involved in particular kinds of algebraic operations; (3) that the best hypothesis concerning difficulty of algebra problems is that based upon the proportion of a large group of pupils solving the problems.

The third revision of the Standardized Algebra Tests (Rugg and Clark) was submitted to teachers of algebra during the spring of 1916.[2] The tests have been constructed, criticized, and revised

[1] *School Review*, January, 1916.

[2] The eleven printed tests for the formal processes, together with complete lists of standardized verbal "translation" problems, may be secured in quantities from H. O. Rugg, School of Education, University of Chicago. The tests will be sold during this year at 4 cents per set (a set to a pupil). The fourth reprinting (within the next year) will enable us to sell these at a lower rate. The price will be set as nearly as possible on a "cost" basis, no profit being made on the tests.

three times in accordance with the principles of design set forth last year. It should be pointed out that other algebra tests which have been made up, printed, and used by many school systems, do not make use of detailed principles of design. This investigation has convinced us that the following principles are essential to sound testing. We repeat the fundamental ones from last year's report:

a) PRINCIPLES GOVERNING THE SELECTION OF TEST PROBLEMS AND CONDUCT OF TESTS

In order that a scale for measuring efficiency in elementary algebra may successfully test automatic efficiency and independent solution it must be composed of two general types of test: (1) a specific test series (A) which will test the specific manipulative abilities of students in all the basic automatic operations involved in the solution of algebra problems; (2) a translation test (B) which will test the independent ability of the student in practical or applied problems.

1. *The formal tests*, as designed and presented herewith, conform to the following requirements:

a) They are made up of a series of problem-tests each of which is designed as a specific test for a definite automatic operation in algebra solution.

b) Each specific test is made up of a number of problems (10 to 28) each of an elemental nature and involving the operation in question, and for each of which the degree of difficulty has been determined carefully by experimentation.

c) *The cycle principle of design.*—Because it is impossible to arrange separate tests for all kinds of operations involved (owing to lack of time in classroom handling, etc.), those problems which involved *closely related operations were grouped in one test and arranged rigidly in rotation.* Thus the student solving 20 problems may be compared with the one solving 10 problems.

d) Each test was designed as a time test, the time being so arranged (by experimentation) that no student could quite finish the test in the time given, but so that all could do a considerable number—otherwise the measure of efficiency would have been too coarse. Care was taken to see that all pupils started and stopped the test at the same instant.

e) The directions were all given orally by the experimenters so that differences in rate of reading and comprehending directions might not complicate results.

f) Test problems were of the alternative sort; i.e., they were designed to give either right or wrong answers—otherwise careful evaluation and weighing of answers would have been necessary.

Time tests of formal processes in any subject of study must be designed in accordance with:

The cycle principle of rotation of problems.—The various ways in which the symbols, letters, etc., may be arranged for a given type of operation *should appear in exact rotation* in the test. For example, in Test I there are six principal ways in which parentheses problems may be "arranged," i.e., considering the use of the + and − signs, (), letters, etc. These appear in Test I in such order that in the first, seventh, thirteenth, nineteenth, and twenty-fifth problems the signs and symbols occupy the same relative positions, i.e., the problems involve the same algebraic and mental processes. Our research shows that *it is of the utmost importance that this "cycle principle" be followed in the most rigorous fashion.* The importance of this point is indicated by the differences in difficulty that are revealed by Table I, which shows how a few failures to follow the principle *exactly* caused quite different percentages of failure on the part of pupils in solving the problems.

Attention should be called to the fact that the validity of other algebra tests which have been drawn up without regard to this principle should be seriously called in question. For example, the Indiana Algebra Tests, based upon the "Standard Research Tests" devised by W. S. Monroe, sent out from the University of Indiana, have been made up in such a way that the efficiency of pupils solving a given number of problems on any test cannot be validly compared with the efficiency of pupils solving half as many, a third as many, twice as many, etc. To illustrate this point we reproduce Test II of this series of tests:

1. $4(3x-4)=$
2. $-5x^3(4x-1)=$
3. $-7(2+3x)=$
4. $-5(-4+6x)=$
5. $3(-1+6x)=$
6. $-4a^2(8x+4a^5)=$
7. $-7(-5x+8)=$
8. $-8x(-3x-5a^3)=$
9. $6(2-4x)=$
10. $-x(5-6x)=$
11. $-3(9+x)=$
12. $-5(-7x+3)=$
13. $-5(-4x-6y)=$
14. $-6y^3(-9-7x)=$
15. $-4(x-2)=$

Certainly no definite principle of design controls the placing of problems in this test. Our results show that *this is an essential*

step that must be followed if we are to have sound criticism of school practice in these matters. It can be suggested from the results of our investigation that these problems, many of which are several times as difficult as others (problem 1 compared to problems 2, 6, 8, or 14, for example), are not put together in such a way as to lead to comparable results in testing pupils.

The construction of tests to measure the abilities of pupils should be based upon the most scientifically worked-out research principles. Recognizing the urgent need for care in such work, we have checked the "cycle principle" of rotating problems in two different years of experimentation. The results are given in Table I for readers interested in this phase of the work. This table gives the percentage of all of those pupils (over 2,500 took the various tests) who attempted each problem in each test, and who failed to work the problem in question correctly. In this investigation it has not been possible to inquire in detail into the effect of "practice" in working the recurring problems of the cycle. We believe that it will operate in the more difficult tests to give a gradually decreasing percentage of failures on successive problems of a particular type. Table I has been made up and examined carefully for the purpose of discovering which problems in each test are not roughly equal in difficulty to corresponding problems in other cycles. A problem in which a distinctly larger or smaller percentage of failures is found has been replaced by another. Careful study of such problems, in almost all cases, has revealed peculiarities in construction, *or in scoring*, that cause a problem to be thrown out. For example, in problem 3 in Test VI the percentage of failures is 3.5 per cent as compared to from 30 per cent to 36 per cent in all other corresponding problems. Study shows that the problem is so constructed that we cannot determine by an inspection of the pupil's answer whether the mental process is correct or not. The particular error that students make in this problem is that due to "adding exponents instead of multiplying them"; $(n^2)^2$ gives the same answer regardless of the process and thus the work of the pupil cannot be diagnosed to find out whether he is "right" or not. This method of analysis has been applied to each problem in each test and the accompanying list (Table I) of corrections is given.

The tests will be reprinted this year with these corrections made. We believe that they will then thoroughly justify the title "Standardized Tests in First-Year Algebra," and that they may be used by teachers to check up specifically the ability of their pupils in the formal operations.

TABLE I

PERCENTAGE OF PUPILS FAILING TO WORK CORRECTLY CORRESPONDING PROBLEMS ON SUCCESSIVE CYCLES OF EACH TEST

Problems are arranged in columns so that the percentage of pupils failing to work "*corresponding*" problems of successive cycles appear in any one column. To determine relative difficulty of *successive problems in one cycle read horizontally across the table.* Problems which call for study and redesign are indicated by inclosing the percentages thus ( ).

	Test I (Removal of Parentheses)						Test II (Special Products)			
No. of Cycle	First Prob. in Each Cycle	Second Prob.	Third Prob.	Fourth Prob.	Fifth Prob.	Sixth Prob.	First Prob. in Each Cycle	Second Prob.	Third Prob.	Fourth Prob.
1.....	2.5	2.5	9.0	6.5	9.5	8.0	28.1	29.1	30.1	19.4
2.....	3.2	1.1	7.5	4.4	8.7	(12.2)	27.6	18.8	26.3	14.6
3.....	2.2	3.4	8.5	6.7	7.6	7.3	32.4	17.4	22.3	11.2
4.....	4.2	3.0	(12.7)	9.2	4.3	5.2	25.4	(5.84)	19.9	12.5
5.....	5.6	3.3	3.7	2.2	5.3	3.3	22.4	13.1	28.2	(7.82)
6.....	.....	.....	.....	.....	.....	.....	27.4	(8.0)	22.8	(21.3)

	Test III (Substitution)					Test IV (Factoring)				
No. of Cycle	First Prob. in Each Cycle	Second Prob.	Third Prob.	Fourth Prob.	Fifth Prob.	First Prob. in Each Cycle	Second Prob.	Third Prob.	Fourth Prob.	Fifth Prob.
1.....	32.5	34.8	33.2	27.0	33.0	41.5	10.1	7.65	8.6	33.6
2.....	25.8	29.3	31.1	22.0	27.3	33.7	9.8	12.9	8.4	23.5
3.....	20.0	19.1	22.5	12.6	16.1	32.2	9.5	8.6	5.3	27.3
4.....	14.5	23.4	18.5	12.9	11.8	29.1	11.4	(23.6)	5.7	(53.9)
5.....	.....	.....	.....	.....	.....	29.5	5.6	13.5	(11.1)	10.9

	Test V (Fractional Equations)					Test VI (Exponents)					
No. of Cycle	First Prob. in Each Cycle	Second Prob.	Third Prob.	Fourth Prob.	Fifth Prob.	First Prob. in Each Cycle	Second Prob	Third Prob.	Fourth Prob.	Fifth Prob.	Sixth Prob.
1.....	63.0	44.0	53.1	52.6	(41.7)	8.5	(37.7)	(3.5)	11.6	(16.1)	3.5
2.....	61.7	36.9	58.8	(35.5)	(66.9)	8.5	8.5	32.7	14.1	(36.2)	2.5
3.....	55.4	33.1	61.8	48.5	55.0	4.0	7.1	33.9	11.7	45.9	6.2
4.....	65.2	33.3	(36.6)	57.2	51.6	3.7	10.7	29.2	10.9	38.9	(1.7)
5.....	59.8	31.3	(40.0)	52.6	31.6	7.9	8.1	33.5	9.2	43.1	2.1
6.....	.....	.....	.....	.....	.....	3.4	9.2	36.0	14.8	46.2	6.4

TABLE I—*Continued*

TEST VII (QUADRATIC EQUATIONS)				TEST VIII (GRAPHING EQUATIONS)					
No. of Cycle	First Prob. in Each Cycle	Second Prob.	Third Prob.	First Prob.	Second Prob.	Third Prob.	Fourth Prob.	Fifth Prob.	Sixth Prob.
1.....	19.7	34.3	23.7	55.9	53.5	43.4	51.8	50.5	46.4
2.....	22.0	29.0	24.8	(Only one cycle)					
3.....	17.6	28.5	40.4						
4.....	20.6	29.1	43.8						
5.....	15.6	29.9	35.7						
6.....	13.9	(39.1)	33.0						
7.....	10.7	30.7	25.8						

TEST IX (RADICALS)				TEST X (SOLUTION OF FORMULAE)						TEST XI (SIMULTANEOUS EQUATIONS)		
No. of Cycle	First Prob. in Each Cycle	Second Prob.	Third Prob.	First Prob. in Each Cycle	Second Prob.	Third Prob.	Fourth Prob.	Fifth Prob.	Sixth Prob.	First Prob. in Each Cycle	Second Prob.	Third Prob.
1.....	23.1	41.1	50.8	(34.2)	42.0	64.3	95.1	64.6	60.1	(32.5)	23.1	37.6
2.....	16.0	44.2	51.7	46.0	43.0	60.1	92.7	62.0	62.1	(17.9)	27.7	23.1
3.....	(35.5)	42.5	44.3	56.2	39.0	57.8	94.6	57.1	59.3	23.9	17.1	20.9
4.....	18.6	28.4	50.0	53.8	41.0	55.8	93.8	52.3	56.9	23.0	(10.0)	32.5
5.....	(33.1)	33.6	45.7							25.8	19.7	7.4
6.....	14.7	30.0	(59.8)									
7.....	8.2	(19.8)	48.7									

B. THE FIRST CYCLE OF EACH OF THE ELEVEN FORMAL TESTS TOGETHER WITH THE SPECIFIC CHANGES THAT WILL BE MADE IN REPRINTING THE TESTS IN 1917

We give next the exact problems used in the first cycle of each test. Teachers of algebra can thus see exactly how many different arrangements of material are offered in each specific operation. We also list the exact changes that are to be made in each problem. To understand this discussion thoroughly the reader should secure copies of the tests and compare each change with the data of Table I.

1. *Removal of parentheses.*—Tested by Test I. Time, 2 minutes.

First Cycle

$6(3x+8)$
$5(4x-2)$
$-3(8x+3)$
$-4(3x-4)$
$9(-7x-1)$
$-8(-4x-7)$

No changes to be made in particular problems in redesigning tests this year.

2. *Special products.*—Tested by Test II. Time, 3 minutes. Each cycle now contains 4 problems, arranged as follows in first cycle:

1. $(2x-3)^2$
2. $(3m+n^2)(3m-n^2)$
3. $(a-4)(a+5)$
4. $(2b+3a)(2b-3a)$

Because of the relative importance of the following type, No. 5, i.e., $(5x+1)(x+3)$, Test II will be redesigned to give a cycle in which the order of problems is as follows: problem 4 being replaced by No. 5. First cycle to read:

$(2x-3)^2$
$(3m+n^2)(3m-n^2)$
$(a-x)(a+5)$
$(5x+1)(x+3)$

Thus the fourth problem in each cycle will be the corresponding problem from Test IV (factoring), that is, Nos. 5, 10, 15, 20, 25.

3. *Substitution or evaluation.*—Tested by Test III. Time, 5 minutes.

First Cycle

If $x=4$ and $y=2$ what does $2x^2-3xy=?$
If $a=3$ and $b=2$ " " $3ab+ab^2=?$
If $c=2$ and $d=5$ " " $cd^2-2cd=?$
If $p=4$ and $q=3$ " " $p^2+4pq=?$
If $x=3$ and $y=5$ " " $x^2+2x^2y=?$

No changes to be made in this test.

4. *Factoring.*—Tested by Test IV. Time, 5 minutes.

First Cycle

$5x^2+15x^3$
a^2-64
y^2-6y+9
$b^2+11b+28$
$5x^2+16x+3$

Changes to be made in particular problems (18, 20, 24):

Prob. No.	Now reads:	It will read:
18	$p^2-12p+36$*	$p^2-18p+81$*
20	$9x^2+33x+18$*	$3x^2+22x+35$*
24	$a^2+10a+24$*	$a^2+10a+21$*

*$p^2-12p+36$ and $9x^2+33x+18$ offer many possibilities in factoring, e.g., 6, 6; 9, 4; 18, 2; 12, 3; 36, 1; more than one of which gives a middle term approximating 12. Corresponding problems in other cycles do not give this. Hence such problems will be changed as indicated above.

5. *Solution of fractional equations.*—Tested by Test V. Time, 12 minutes.

First Cycle

$$\frac{4x-2}{3}-\frac{x-3}{4}=0$$

$$\frac{x+1}{x-1}=\frac{5}{3}$$

$$\frac{4}{3+x}-\frac{2}{1+x}=0$$

$$\frac{x+8}{x+9}=\frac{x-5}{x-7}$$

$$\frac{3x}{4}+\frac{3x}{2}=5$$

Changes to be made in particular problems in the test (9, 10):

Prob. No.	Now reads:	It will read:
9	$\frac{x-6}{x+2}=\frac{x-4}{x+5}$*	$\frac{x-6}{x-2}=\frac{x+4}{x+5}$*
10	$\frac{x}{24}+\frac{8x}{4}=17$†	$\frac{x}{12}+\frac{8x}{4}=2$

* In dividing by the coefficient of x this problem did not involve the use of signs, all other corresponding problems did.

† Change made because of unequal degree of arithmetic difficulty.

6. *Exponents.*—Tested by Test VI. Time, 3 minutes.

First Cycle

$$a^3 \cdot a^5 =$$

$$5x^7 \cdot 6a^5 =$$

$$(n^2)^2 =$$

$$\frac{c^3}{c^2} =$$

$$(ba^2)^2 =$$

$$x^7 \cdot x =$$

Changes (2, 3, 5):

Prob. No.	Now reads:	It will read:
2	$5x^7 \cdot 6a^5$*	$5x^7 \cdot 6x^5$*
3	$(n^2)^2$†	$(n^2)^3$†
5	$(ba^2)^2$†	$(ba^2)^4$†

* Mistake in printing.

† Answer does not reveal specific operation.

7. *Solution of quadratic equations.*—Tested by Test VII. Time, 7 minutes.

First Cycle

$$x^2-81=0$$

$$y^2+y=6$$

$$n^2-7n=-12$$

Changes (9, 12, 17):

Prob. No.	Now reads:	Will read:
9	$m^2+5m=6$	$m^2-5m=14$
12	$q^2+13q=30$	$q^2-11q=26$
17	$a^2-10a=24$*	$a^2-6a=27$*

*Too many possibilities of factoring the 24.

Additions.—No recurring problems of the type $m^2+5m=6$ were used in the 1916 printing of the tests. They will be reprinted to include this type as an additional problem in each cycle.

8. *Finding roots by graphs.*—Tested by Test VIII. Time, 12 minutes.

Six graphing problems on the sheet of this type:

Find the roots of $x-y=4$

$2x+y=5$ by drawing the graphs.

No changes.

9. *Expressing radicals in simplest radical form.*—Tested by Test IX. Time, 3 minutes.

First Cycle

$\sqrt{8}$

$\sqrt{a^3b^4}$

$\sqrt{2/3}$

Changes (6, 7, 13, 18, 19, 20):

Prob. No.	Now reads:	Will read:
6	$\sqrt{3/5}$*	$\sqrt{3/10}$*
7	$\sqrt{32}$	$\sqrt{12}$
13	$\sqrt{48}$	$\sqrt{45}$
18	$\sqrt{3/8}$†	$\sqrt{3/11}$
19	$\sqrt{20}$	$\sqrt{24}$
20	$\sqrt{b^3c^2}$	$\sqrt{b^7c^{10}}$

*To avoid duplication.

† Multiplying by denominator introduces in numerator perfect square factor.

10. *Solution of simple equations (practical formulae).*—Tested by Test X. Time, 7 minutes.

First Cycle

$$V=LWh$$

$$c=\frac{E}{R}$$

$$E=\frac{PL}{K}$$

$$L=\frac{Mt-g}{t}$$

$$I=\frac{bd^3}{3}$$

$$E^2=\frac{JWhr}{t}$$

Changes (1, 19):

Prob. No.	Now reads:	Will read:
1	$V=LWh$	Interchange No. 1 and No. 19 because
19	$P=ahw$	of common use of No. 1.

11. *Simultaneous equations.*—Tested by Test XI. Time, 12 minutes.

$$2x+y=10$$
$$3x-2y=1$$

$$2x=3y+3$$
$$5x+3y=39$$

$$4n-2r=0$$
$$3n+5r=13$$

Problems in which changes will be made in redesigning Test XI (4):

Prob. No.	Now reads:	Will read:
4	$5b+c=21$	$5b+c=21$
	$6b-2c=22$	$3b-2c=10$

ADDITIONAL "FUNDAMENTAL OPERATIONS" FOR WHICH TESTS WILL BE DESIGNED THIS YEAR

1. *Subtraction.*

Sample cycle:

1st problem: From $2a-3b+5c$ take $5a+4b-c$
2d problem: Take $4x+2y-6z$ from $2x-y+z$
3d problem: Subtract $3r-5x+10t$ from $r+s+4t$

2. *Clearing of fractions.*

3. *Combining terms.*

C. METHODS OF MEASURING ABILITY TO USE ALGEBRAIC METHODS IN THE SOLUTION OF "ORIGINAL" VERBAL PROBLEMS

Algebraic abilities are of two distinct kinds: (1) that involved in translating "word problems" into algebraic symbolism; (2) that involved in manipulating the formal operations. In the testing done in 1915 by this committee the former type (involving "reasoning ability") was measured by tests which required the pupil to do two distinctly different things: (1) state the verbal *problem* in algebraic form (i.e., give the equational relation); (2) work through the manipulation of the formal operations to the statement of the final answer. The result was that the incorrectness of the answer of the pupils did not indicate which type of error had been made. The revised method of testing "reasoning" abilities is to require

the pupil to do but one thing: *translate the problem into algebraic language.* The ability to manipulate the formal operation is measured by the appropriate formal test. In this way our scoring is *not* complicated by two or more different types of mental process.

THE DESIGN OF "REASONING TESTS"

a) *Shall they be time tests?*—In our 1915 principles of design, we established the principle that efficiency of manipulation of formal operations should be measured by the number of problems of a given type that could be done in a unit of time—that is, *formal tests must be time tests.* On the other hand, since we have as yet in educational research no definite means of equating speed and accuracy in working problems, we have decided to determine the difficulty of "verbal problems" (and thus the "weights" to be used in scoring pupils) by having pupils solve them without the complicating pressure of time.

b) *Principles of design of verbal tests.*—Thus the principles of design underlying the two methods of measuring ability are: (1) for the formal operations, group together in one test all necessary arrangements of letters, symbols, etc. (observing rigidly the "cycle" principle), and measure the efficiency by the number of problems worked in a unit of time (say, a minute); (2) for the verbal problems: (*a*) design tests of verbal problems (a score or more of such lists ought to be available eventually) ranging in degree of difficulty from very easy problems (which nearly all pupils will solve correctly) to very difficult problems (which but few pupils will solve correctly); (*b*) weight each problem in scoring the ability of pupils by determining its relative degree of difficulty; (3) this can be done by (*a*) finding the percentage of a large and representative group of pupils which solve each problem correctly; (*b*) assuming that algebraic abilities are distributed in the general first-year high-school population in accordance with some known distribution curve.

Working on these hypotheses and principles, lists of verbal problems (totaling 51 in all) were drawn up covering the principal types of subject-matter named above. As a result of giving the 1915 tests, problems of widely varying degrees of difficulty were

included. These problems were then worked by 1,295 pupils, distributed throughout 26 school systems, 17 of which also worked the 11 formal tests. As a result of this testing there was determined the percentage of the group that worked each problem correctly. In order then to determine the relative difficulty of each problem, the assumption was made that algebraic ability is distributed fairly closely in accordance with the "normal" probability curve. (Intellectual abilities in the elementary school have been shown to follow this distribution rather closely. We recognize the possible existence of many factors which tend to make the secondary-school curve skewed to the high end of the scale. Almost nothing is actually known of the amount and direction of their influences, however. The best "practical guess" that can be made at the present time as to the distribution of scholastic abilities is that it corresponds closely enough to the curve of error to warrant using the well-worked-out properties of that curve in our design.)

Let Diagram I represent the distribution of algebraic abilities in the pupils represented by our 27 school systems. The base line then represents a "scale of algebraic difficulty" ranging, let us say, from nearly 0 ability to nearly perfect or 100 per cent ability. The area between the curve and the base line represents the number of pupils in our entire group. If we divide the base line into any number of parts and erect upright lines at the points representing these parts we could determine, from the properties of the normal curve, the number of pupils that ought to be found between these distances in the base line.

In the same way we could determine what percentage of our group of pupils should be found distributed between the zero point on the base line and any other point. Since the normal curve has the property that it actually meets the base line only at infinity we are forced to set our 0 and 100 points arbitrarily by deciding how large a percentage of the entire group we may drop off at both ends of the base line.

Taking as our unit of measurement on the base line, sigma, the "standard deviation" of the distribution (indicated graphically on Diagram I), and laying it off 2.5 times each way from the midpoint of the curve, gives us 5 divisions (which may be conveniently

divided into 10 divisions corresponding "practically" to our public-school marking system). In doing this we are arbitrary to the extent of neglecting only 0.62 of 1 per cent of our pupils at each end of the base line. If this 0.62 of 1 per cent is thrown into the

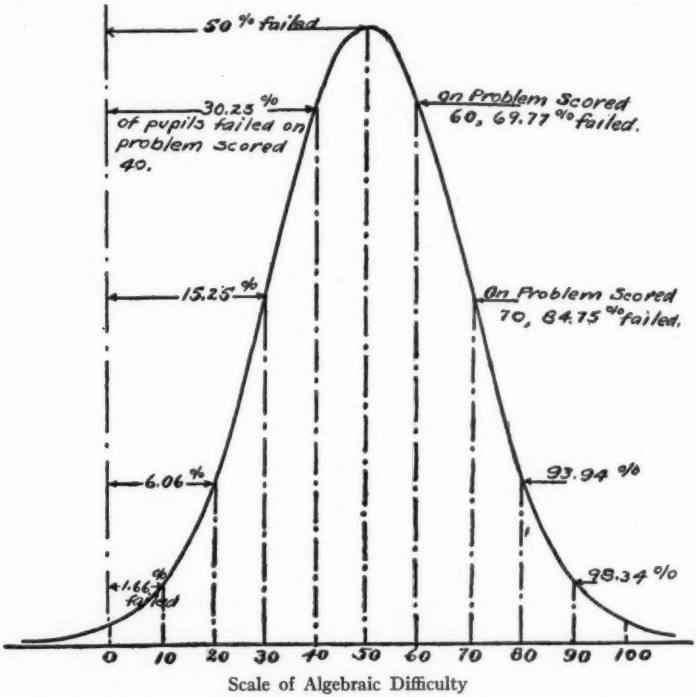

DIAGRAM 1.—Distances on the base line represent, to scale, relative difficulty of problems. Area under the curve represents total number of pupils that were tested for ability to translate verbal problems. 0 and 100 points set arbitrarily at $2.5 \times \sigma$ from the mean. Mean is set arbitrarily at 50. Area of the curve between 0 and any point on base line represents percentage of pupils who failed the problem placed at that point.

middle of the curve where the individuals are more closely grouped, it is a negligible factor. Calling the point 2.5×sigma from the mid-point 0, and setting the successive points 10, 20, 30, etc., to 100, we now have a practical working "scale of algebraic difficulty"

over the successive points of which the corresponding percentages of our pupils may be indicated. Doing this, we see in Diagram I the proportions of our group of pupils that correspond to various degrees of difficulty on the base line. Thus a problem which is failed by 96.6 per cent of the group falls at the point marked 85; that failed by 84.8 per cent is scored 70, etc., throughout the list. To enable us to mark in an accurate way, a table has been computed in which the base line has been divided into 500 parts.

Verbal list A is printed herewith as representative of the scoring of the 51 problems that have been worked by our entire group of pupils. Each of the 51 problems has been scored for difficulty.[1]

The problems in each list range from very easy to very difficult by approximately equal steps. They are scored on an absolute percentile scale from 25 to 85. The outstanding deficiency is found to be: no problems were included in our list of 51 harder than 85 on this scale (assuming a normal distribution of ability) or easier than 25. The problems at the low end of the scale were estimated incorrectly to be so easy to solve that all pupils would be able to work them. It was found that no problem showed less than 10 per cent of failures and no problem showed less than 3 per cent of successes. The committee is now initiating a thoroughgoing attempt to have large numbers of pupils solve several hundred problems. From these solutions we shall be able to extend the present list and add many more.

When the standardizing of verbal problems is complete, teachers may use such material very easily in a thoroughly practical way. For example, a teacher may, at any time make up an "examination" of translation problems by selecting one or more problems from each "weight," 25, 30, 35, etc., or from "weights" particular degrees of difficulty. She can facilitate her own testing by selecting problems in such a way that the total maximum score is, say, 500 or 1,000—easily reduced to a percentage basis. It must be remembered in all this work that we are testing here *the results of one year's training in algebra*. There must be further detailed experimentation before the comparability of scores obtained *during* the year with those obtained at the end of the year will be established.

[1] Complete lists of verbal problems may be secured from H. O. Rugg, School of Education, the University of Chicago.

STANDARDIZED TESTS IN FIRST-YEAR ALGEBRA (VERBAL PROBLEMS)

Rugg and Clark

(Graded on an absolute scale of difficulty from 0 to 100, in accordance with two assumptions: (1) among first-year high-school students the distribution of algebraic ability approximates the "normal" probability curve; (2) the difficulty of problems varies as the percentage of pupils able to solve the problems correctly, superimposed on the base line of this curve.)

Score	VERBAL LIST A
85	A train running from Chicago to Denver at average speed of 40 miles an hour, takes 3 hours longer to make the run than one running at 45 miles an hour. What is the distance from Chicago to Denver?
80	If a cistern can be filled by one pipe in x minutes and emptied by another in $x+5$ minutes, what part of the cisternful runs in one minute if both pipes are open?
75	Find two numbers whose sum is 51, such that if the greater is divided by their difference, the quotient is $3\frac{1}{2}$.
70	Twice the width of the Pennsylvania station in New York exceeds its length by 80 feet. 4 times the length exceeds the perimeter by 700 feet. Find the dimensions.
65	If a boy $4\frac{3}{4}$ feet tall casts a shadow $4\frac{1}{2}$ feet long at the same time that a school building casts a shadow $57\frac{1}{2}$ feet long, how high is the school building?
60	A father 54 years old has a son aged 9 years. In how many years will the age of the father be just 4 times that of the son?
55	Two boys play at teeter. One weighs 100 lbs. and sits 6 feet from the point of support. The other weighs 120 lbs. How far from the point of support must he sit in order to make the board balance?
50	What number has the property that when multiplied by $\frac{5}{8}$, the result is greater by 1 than when multiplied by $\frac{1}{2}$?
45	If the width of a rectangle is W increased by 10 and its length L increased by 20, write the equation for its perimeter.
40	8 times a certain number equals 45 diminished by the number. State the equation by which you would find the number.
35	If W and L are the width and length of a rectangle, write the equation for its area in terms of W and L.
30	If you represent a number by x, how will you represent 5 more than 5 times the number?
25	Express the following verbal statement in algebraic form: the square of a side plus five

[*To be continued in March*]

EDUCATIONAL NEWS AND EDITORIAL COMMENT

The Chicago Dinner

Former students and graduates of the University of Chicago who expect to attend the meeting of the Department of Superintendence in Kansas City in February are reminded of the annual dinner which is held at this meeting. The dinner will be given at the Hotel Muehlebach on the evening of Tuesday, February 27, at six o'clock. The price will be $1.50 per plate. Tickets can be secured in advance by writing to Dean W. S. Gray at the School of Education, or tickets will be supplied at the time of the dinner to all who have signified by Tuesday morning their intention of being present.

College Teachers of Education

Kansas City, February 26, 27

Monday Forenoon, February 26—Program I. Hotel Baltimore.

Monday Noon, February 26—Luncheon of the Society, Hotel Baltimore.

Monday Afternoon, February 26—Program II. Hotel Baltimore.

Tuesday Forenoon, February 27—Program III. Hotel Baltimore.

Tuesday Noon, February 27—Luncheon of the Society. Hotel Baltimore.

FIRST SESSION

General Topic: "Standardization of Courses for the Training of Teachers"

1. "What Should Constitute a Complete Undergraduate Course for a Prospective High-School Teacher? Speaker to be supplied.

2. "Should the Scientific or the Technological Aspects of Education as a Profession Be Most Emphasized? Ernest Horn, State University of Iowa.

3. "Uniform Nomenclature." G. M. Wilson, Iowa State College.

4. "Definiteness as a Means to Uniformity in Education Terminology." A. Duncan Yocum, University of Pennsylvania.

5. General Discussion.

SECOND SESSION

"Ten-Minute Reports of Current Investigations"

1. "Teacher-Training Agencies in the High Schools of Minnesota." L. D. Coffman, University of Minnesota.

2. "The Situation in North Central Territory Concerning the Professional Training of Teachers in High Schools." H. A. Hollister, University of Illinois.

3. "What Are Teachers Colleges, Schools of Education, and Normal Schools Doing Actually to Prepare Their Graduates for Socialization Work in the Schools? H. D. Sheldon, University of Oregon.

4. "Distribution of Major and Minor Subjects among Candidates for the Teacher's Diploma at the University of Michigan. C. O. Davis, University of Michigan.

5. "Distribution of Grades in School and College." A. Inglis, Harvard University.

6. "The Relation between Mental Age and School Attainments in Backward Children." C. S. Berry, University of Michigan.

7. "Measurement of Reading." M. E. Haggerty, University of Minnesota.

8. "The Experimental Study of Rhythm in Handwriting." F. N. Freeman, University of Chicago.

9. "Rhythm in Handwriting." H. W. Nutt, University of Kansas.

10. "A Study to Determine the Amount of Arithmetic Available in the Case of High-School Graduates Who Have Not Had Arithmetic in the High-School Course." J. A. Drushell, Harris Teachers College.

11. Standardized Tests in First-Year Algebra. H. O. Rugg, School of Education, University of Chicago.

12. Other reports to be supplied.

Wyoming Plan of Military Drill for Chicago Schools

Public announcement is made to the effect that Captain E. Z. Steever, of the United States Army, with a corps of four lieutenants and sixteen sergeants of the regular army, will inaugurate a system of military drill in the high schools of certain cities within the central department of the army. Ten officers are assigned to the twenty-three high schools of Chicago. The so-called "Wyoming plan" is said to have been selected, and approved by the Secretary of War.

The essence of the Wyoming plan is the organization of competitive units in the various schools. Boys are assigned to various scaling units,

infantry units, drill units, troop leadership units, field firing units, camp and field units, etc., in such a way that each unit is made up of an equal number of strong, medium, and weak lads. Cadet classes are held as best suits the local school authorities. Up-to-date equipment is furnished by the government, with the exception of uniforms, for which some other provision must be made. Each cadet will have a rifle; skill in handling the weapon will be an essential part of the program. Membership in the military squads is by no means compulsory, each student and his guardians having the privilege of determining whether or not military training shall be undertaken. We suspect that the women who instructed their sixteen-year-old sons to stand at the polls last November and say to every voter, "We don't want to fight; we want to stay at home with our mothers"—that such women will veto the plan for their sons. At least four such boys will be denied, under this assumption, in the sixth ward of Chicago.

This system, which appears very simple on paper, is beset with many petty difficulties. Some of these Captain Steever is experiencing as he looks over the ground in Chicago. Who will provide uniforms? How will the drill be adjusted with the high-school program? What about rifles, firing ranges, and the like? Captain Steever has taken the firm and sensible position that military drill without guns is sentimental and senseless. What about a system of cadet officers among high-school lads? The commandant is said to favor a plan of "cadet leadership" as opposed to cadet officers. Instead of captains, colonels, lieutenants, there is proposed for Chicago units the titles of platoon, company, and battalion "chiefs," like chiefs of the departments of a railway system.

More Serious Difficulties of Military Drill

But the difficulties just mentioned are insignificant compared with others, fundamental and almost insuperable, in any scheme of voluntary drill. Anyone who is familiar with the cadet system as carried out in state universities knows the general sentiment among the rank and file of students—"It's all right for the officers, but it is a hard, thankless job for the privates in the rear rank." This feeling is expressed with various shades of emphasis. And military drill, if it is to amount to anything, must be more than a light education in gentlemanly gymnastics. It is hard and serious work. Setting-up exercises require long and sustained attention by men whose hearts are in the work. But we find that most of the university battalions have discarded all but a mere sham and pretense at setting-up exercises. When they are carried out

the cadets loaf through them in a slipshod manner. The manual of arms and company maneuvers are more easily supervised and are generally carried out with credit. But the truth is that compulsory drill even in the universities is looked on as a bore, a job to be got through as quickly and as easily as possible. Young men resent the airs often assumed by cadet officers on the field; off the field such airs would be rewarded by a ducking in the river. Military balls are not popular with those college boys who have to attend in a private's uniform.

It may be thought that the Wyoming plan avoids both of these difficulties, because it is voluntary, and calls for chiefs, not officers. However, the elective system may leave out the very boys, big strapping fellows, who ought to be drilled if the scheme has any military purpose; it may leave out little anaemic chaps who ought to be drilled if the purpose is physical training. Moreover, when once in, and the glamor has passed, many boys will elect to change their minds and drop out, if allowed. If not, they will make life miserable for cadet officers. The army officer and the school officials will have their hands full in maintaining discipline. If compelled to remain against their will, the lads may become slackers. In the absence of any real compulsion many cases of this kind are bound to occur.

Again, it appears ridiculous to abolish military terms for officers. To call them chiefs sounds like the organization of a police force. Moreover, the change of name will not touch the real difficulty, the heart of which lies here: boy A, by painstaking industry, has under military promotions, become an officer. Boys B, C, and D, who are better students, stronger athletes, or from richer families, and know it, begin to sneer, sulk in their work, or insult the young officer. This result cannot be avoided by a mere change of name.

WHAT MUST BE DONE

Military drill if effeminated and sugar-coated is likely to be a great and humiliating failure. The expedition of 100,000 militia to the Mexican border brought these men home disgusted. You cannot make play out of hard work. Discipline means a certain amount of drudgery, slavish attention to detail, rigid obedience to authority. The *School Review* believes that such discipline is valuable and much needed among our high-school boys; so much so, that we welcome an experiment in Chicago, provided it is given any chance to succeed. We believe it has no chance of success, unless from the very beginning the following principles are incorporated:

1. Make membership a real privilege, by keeping the companies small; make expulsion a disgrace.

2. Call the option "enlistment," with a sensible application of what that means.

3. Keep authority firmly in the hands of the army officers.

4. Multiply the competitive features, especially interschool firing matches, and competitive drills.

5. Teach seriously the use of firearms, plan summer camps for brief periods.

6. Incorporate credit for graduation on exactly the same basis as in any other elective study.

Credit for Outside Activities

The suggestion that credit toward graduation be allowed for serious and sustained attention to military training, raises the general question as to the advisability of such procedure. High schools all over the country are giving school credits for everything under the sun, from baking the bread and making the beds at home, to private music lessons and Boy-Scout activities. The latest is the experiment of Austin, Texas, with the Boy-Scout work. Credit is allowed on the following conditions:

1. For passing one set of Scout tests above tenderfoot, $\frac{1}{4}$ credit per term.

2. For each two merit badges passed, $\frac{1}{8}$ credit.

3. Upon passing to rank of Eagle Scout 1 unit to be given in addition to other credit gained.

4. Maximum credit for work done exclusive of passing to Eagle Scout must not exceed $\frac{1}{2}$ credit per year.

5. Credits shall not be retroactive and not less than $\frac{1}{2}$ credit shall count toward graduation.

6. All credit must be approved by the Court of Honor and the city superintendent of schools.

7. Recommendations for credit to the Court of Honor must be signed by the chairman of the Troop Committee, the Scoutmaster and the Scout Commissioner.

Progressive schoolmen are decidedly right in their efforts to tie up the work of the school with the home life of pupils and with their outside activities. But there is one caution that must ever be borne in mind. Work for which credit is given ought to be rigorously estimated in terms

of time, and of substance, equivalent in amount to the amount, disciplinary value of actual school work. Such an effort appears to have been made in Austin. Certainly the lad who attains the higher merit badges of the Scouts, has had fully the equivalent of a course in physical training lasting the same time. In Austin, too, the wise provision seems to be made that the ultimate decision as to the credits must rest with school authorities. Parents, or even enthusiastic Boy-Scout Leaders might be inclined to recommend credit for pupils who had accomplished merely the form of the requirements, while in reality they have utterly failed in the real substance of them.

The Passing of Blackboards

The year 1817 may be taken roughly as marking the appearance of blackboards in American schools; slate and pencil were devices adopted somewhat earlier. School literature of the first quarter of the eighteenth century contains many references to the former of these devices as a new and untried experiment. For one hundred years slate and blackboard have been considered indispensable in any well-conducted classroom. But the year 1917 may be the beginning of the end for the board, the passing of that device following the disappearance of the slate and pencil by about the same difference of time which marked their beginning. Only the most backward schools today tolerate the slate; and a few of the most progressive are endeavoring to find substitutes for the board.

Extension Work for Teachers in Kansas

A comparatively new form of extension work combining the thoroughness of correspondence study with the inspiration to be gained from group study under the direction of a college instructor is being practiced on a large scale in southeastern Kansas by the State Manual Training Normal School at Pittsburg. On a conservative estimate more than one thousand persons, most of them teachers in active service, have enrolled this fall in some of the numerous courses offered.

This work was organized two years ago. It was only last year, however, that it began to take on large proportions. Twenty-three cities and towns had groups of students meeting for instruction every week or every two weeks. This fall there are thirty-three towns on the list and forty-five classes. Other towns are asking to be placed on it. Each Friday afternoon twelve or fifteen members of the faculty pack their grips for a trip over their circuits.

The normal school at Kent, Ohio, and the State Teachers' College at Cedar Falls, Iowa, are doing similar work. Several other institutions are working out extension-study systems for teachers.

The faculty of the Manual Normal School could see no reason why the school should not extend itself to the teachers in the field, just as the agricultural colleges all over the country are doing for the farmers. It is the only school in Kansas that furnishes this particular sort of extension-study facilities. The system it has built up within the short space of two years would seem to indicate that the plan will be successfully adopted in many states.

College or high-school credits are allowed for all work. The amount any student may take is strictly limited. Nor is gaining credits a matter of merely attending a lecture weekly. The written work required is, in most courses, the only thing considered in estimating the grades.

The meetings of the study group have for their purpose the taking of the atmosphere of the training school to the teachers in the field with the inspiration that is secured through group effort. The only difference that results in regard to the written work, as compared with the usual correspondence course, is that this work is done more easily because done more intelligently. The instructors outline courses, anticipate difficulties, and comb out tangles. The same amount of written work is required as though the courses were given by correspondence alone.

But one other result accrues from these group meetings, a result to which the instructors attach much value. It is that they are enabled to keep in close and vital touch with conditions in the school's field. They learn the field's needs at first hand. Every week they talk over some of its problems with the teachers who are trying to solve them. They believe that in this way they will make the school a greater force for educational progress by "keeping down to the grass roots," as they say in Kansas.

One of the courses offered is distinctly novel. This is organized especially to meet the needs of a large group of city teachers. The superintendent in the cities of Chanute, Parsons, Coffeyville, and Independence, all cities of the first class, said that they wished their teachers to take work that would keep them abreast of present-day movements in education. A course dealing with the larger problems of modern education and based on a library of twenty volumes is the department's answer. Every teacher in the four cities is required, by ruling of the school boards, to take the course, which has an enrolment of about three hundred.

BOOK REVIEWS

How to Use Your Mind: A Psychology of Study. By HARRY D. KITSON, Ph.D. Philadelphia and London: J. B. Lippincott & Co. Pp. 215.

This book aims to solve some of the problems of the college Freshman. The problem of the young person entering college is a serious one. Having on the educational side the task of training one's self prominently in view, the machinery for doing so is completely strange and unfamiliar. The young person entering college for the first time faces the necessity of adjusting himself to an entirely new situation. The methods of presentation of the continuation subjects are quite different from those one is accustomed to. And when there is also a new subject encountered hopeless confusion prevails. College teachers must be planning constantly various schemes of presenting their respective subjects in such a way as to make the material clear and comprehensible to the student. The resourcefulness in formulating these methods of presentation marks the degree of teaching ability.

Assuming that the instructor does his part faithfully and well, there is still much to be desired before the student may be expected to make the most of his time and energy. It is necessary to have the student adopt the proper attitude toward his work; and further, the student should appreciate how to make the best use of his mental capacities. This is the task that Dr. Kitson has set himself in the present book, which is an attempt to give the young students some appreciation of what is involved in study, and the mental processes functioning in this activity.

Dr. Kitson discusses in a very helpful way the psychology of memory, habit, attention, and reasoning with especial reference to study. This material gives the student useful facts which may be immediately applied. The learning process with its plateaus is treated in such a way as to make study less discouraging to the student than it sometimes becomes.

Not only are the purely mental processes emphasized. The book discusses also the conduct of the student in those necessary adjuncts to college training, note-taking and preparations for examinations. The efficient methods of doing both are pointed out and illustrated.

The most efficient study implies satisfactory bodily conditions. This gives Dr. Kitson the cue for a discussion of the bodily processes and paves the way to point out the best means of maintaining physiological conditions which should aid and not hinder the progress of the study engaged in.

The work of Dr. Kitson is well planned and carefully executed. A judicious use of it on the part of the student should result in the minimizing of his difficulties with study.

J. R. K.

The Principles of Health Control. By FRANCIS M. WALTERS, A.M., professor of physiology and hygiene, State Normal School, Warrensburg, Mo. Boston: D. C. Heath & Co., 12 mo. Illustrated. $1.20.

The purpose of the book seems to be to present to the student in as clear and simple a manner as possible the fundamental laws of health; first in the individual, then in the community. The watchword is "control."

The introduction (chap. i) discusses the value of health in its largest sense: The basis of efficiency, happiness, personal attractiveness, length of life, and racial vigor.

Chap. ii is a brief review of the physiological processes and their relation to cells. It is summarized as follows: "Since we can determine what substances shall enter the body, govern to some extent the efficiency of the vital organs, determine our adjustment to environment, and regulate the expenditure of our energy we can control . . . . our health."

Chap. iii takes up health variations in the same person and health differences among people, direct and indirect causes of disease. There is a blank at the end for self-examination.

Twelve chapters then follow with detailed instructions in "control," beginning with exercise and posture and closing with the relation of mental and emotional states to the physical condition, and the principles of nerve conservation. He leads up well to the topic or problem of prolonging the period of mental efficiency.

The two chapters on "Germ Fighting" treat in a very suggestive way the defensive and the offensive methods. In no book of a similar character is the process of preparing an antitoxin better treated. The offensive treatment concludes with several paragraphs under "Health Work." The following version of the Golden Rule is given: "As we would that others protect us from their germs, so should we protect them from our germs."

Review exercises and several paragraphs on "health work" follow each chapter. The latter are especially good.

The modern trend of the book is shown in several chapters, but especially so in the last on the larger control through social readjustment. Here eugenics is given its proper attention in a very few words.

This is a book that deserves the consideration of school authorities and people outside of schools. Its author has worked it out to meet the needs in a normal school, but it could equally well adapt itself to the high school, where the regular course in physiology should precede or accompany the course in hygiene.

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The American School. A Study of Secondary Education. By WALTER SWAIN HINCHMAN. New York: Doubleday, Page & Co., 1916. Pp. ii+232.

Mr. Hinchman has devoted the larger portion of his book to the American high school. As he himself says in his introduction, he has attempted to treat a very broad subject in a very limited space. But in his discussion of secondary education in America, he has wisely selected six important phases of that work, and has confined himself to these. Throughout this discussion runs his theme, a most vital and interesting point of view; namely, education by production. This idea is the keynote of the chapter on "Education," and here the theme is outlined. One learns by doing; one learns to think by thinking, and to make things by making them. Doubtless the results during the process will be of no value to the world, but of inestimable account in the development of a human being. The next three chapters might be called a general survey of American schools, including statistics and classifications of courses of study, with a sorting and labeling of teachers—not an inspiring discussion, but possibly a useful background for the succeeding chapters.

Following the picture of schools as they are, comes a discussion of American traits, upon which is based the plan of these schools of tomorrow. In the constructive ideas for the schools are a number of interesting points. One pregnant suggestion is that the course of study shall contain "leads" that shall influence the time spent out of school hours. A practical suggestion is the six-year high school—this course to be divided into the junior and senior schools, each of three years. The curriculum for this school should be planned with the following aims in view: humanism, information, hand training, "leads" toward the pupil's leisure time and his maturity, and above all preparation for life. Interesting courses of study are worked out on this basis. The methods of teaching must be worked out on the same principles, constantly keeping in view the idea of education by production. The chapter on "Athletics" contains nothing particularly new; in brief, it suggests that with "proper supervision, adequate equipment, and the treatment of physical development as a part of the whole education" the pupils may gain both morally and physically.

The last chapter offers a number of ideas for the development of morality and religion. Whether or not they are practical might be proved with the trying out.

On the whole the book contains clear-cut, definite reading. Perhaps the three most suggestive ideas are the responsibility of parents for the schools, and the necessity of "leads" in the school to influence the pupil's outside and later life, and the main theme, "education by production."

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BOOK-NOTES

(Detailed discussions of some of the following books will appear later.)

HORNE, H. H. *Story-Telling, Questioning and Studying.* New York: Macmillan, 1916. Pp. 181.

KLAPPER, PAUL. *The Teaching of Arithmetic.* New York: D. Appleton & & Co., 1916. Pp. 387. $1.45.

LARSON, W. E. *Wisconsin County Training Schools for Teachers in Rural Schools.* Department of the Interior, Bureau of Education, Bulletin, 1916, No. 17.

MCMANIS, JOHN T. *The Study of the Behavior of an Individual Child.* Baltimore: Warwick & York, Inc., 1916. Pp. 54. $0.75.

Official Bulletin: Railroad Number. December, 1916. Young Men's Christian Association.

Official Report of the Board of Education, Chicago, September 27, 1916.

POLAK, S., and QUILTER, H. C. *The Teaching of Drawing.* Philadelphia: J. B. Lippincott & Co., 1916. Pp. 168.

ROEHM, A. I. *Practical Beginning German.* Menasha, Wis.: Geo. Banta Publishing Co., 1916. Pp. 355.

The author has varied the usual order in presenting the grammatical forms for the sake of correlating the German with English forms. The selections for reading have been chosen with a view to careful drill on a limited vocabulary rather than to cover a large amount of reading.

RUGG, H. O. *The Experimental Determinations of Mental Discipline in School Studies.* Baltimore: Warwick & York, Inc., 1916. Pp. 132. $1.25.

Dr. Rugg's experiments disprove a number of popular theories.

SMITH, HENRIETTA BROWN (Editor). *Education by Life.* Baltimore: Warwick & York, Inc., 1914. (2d ed.). Pp. 211. $1.25.

State Pension Systems for Public School Teachers. Department of Interior, Bureau of Education, Bulletin, 1916, No. 14.

STRONG, ED. K., JR. *Effects of Hookworm Disease on the Mental and Physical Development of Children.* New York: The Rockefeller Foundation. International Health Commission, Publication No. 3, 1916. Pp. 121.

Survey of Educational Institutions of the State of Washington. Department of the Interior, Bureau of Education, Bulletin, 1916, No. 26.

The School and the Immigrant. Department of Education, City of New York, Division of Reference and Research, 1915.

TWOMBLEY, FRANCES D., and DANA, JOHN C. *The Romance of Labor.* New York: Macmillan, 1916. Pp. 288. $0.55.

Selections have been made from such well-known works as *Caleb West, The Winning of Barbara Worth, Brunel's Tower, Arizona Nights,* to represent deep-sea diving

reclaiming the desert, pottery making, and cattle branding. The book furnishes interesting specimens in narration. Most of the passages have been taken from books with which the average reader is thoroughly familiar.

VALENTINE, C. N. *An Introduction to Experimental Psychology.* Baltimore: Warwick & York, Inc., 1916. Pp. 194. $1.10.

VAN DEUSEN, C. *Demonstration in Woodwork.* Peoria, Ill.: Manual Arts Press. $1.15.

The book presents a plan to be followed by students who wish to learn the fundamentals of woodworking, but who have no opportunity to receive continuous instruction from one especially prepared to give it. The book is particularly valuable for rural schools.

WANG, CHANG PING. *The General Value of Visual Sense Training in Children.* Baltimore: Warwick & York, Inc., 1916. Pp. 85. $1.00.

WEBSTER'S *Collegiate Dictionary.* Springfield, Mass.: G. & C. Merriam Co., 1917. Pp. 1224.

Webster's *Collegiate Dictionary*, 3d ed., is the largest abridgment of Webster's *New International*. It contains most of the essentials of the larger work and was prepared under the same editorial supervision. The thin-paper edition de luxe is printed on Bible paper, which was specially made to combine the qualities of opacity, body, strength, and excellent printing surface, with requisite thinness. The result is a convenient volume one-half the bulk of the edition on regular book paper. The book is complete enough for the average student and yet small enough to find a place upon the writing table or business desk.

WEIDENSALL, JEAN. *The Mentality of the Criminal Woman.* Baltimore: Warwick & York, Inc., 1916. Pp. 375. $1.75.

WIER, M. C. (Translator). *The Prometheus Bound of Aeschylus.* New York: Century Co., 1916. Pp. 76. $0.65.

WILKINS, A., and LIMA, M. A. *Lecturas Faciles.* Boston: Silver, Burdett & Co., 1916. Pp. 256.

Lecturas Faciles is a practical reader and grammar with interesting illustrations. The selections are of popular character rather than of the literary type as is usual in most readers. The volume provides everyday idiomatic Spanish stories that are simple, yet not childish, that can be readily appreciated by the beginner. The book is intended for use in the second and third semesters in high school, or in the first and second semesters of college. Part I is based chiefly upon the *Libro Segundo de Lectura* and *Libro Tercero de Lectura* of the series published by Silver, Burdett & Co. Part II provides in Spanish interesting information about Latin-American countries. The articles upon Argentina, Brazil, Cuenca, Costa Rica, and Peru are adapted from various articles appearing in the publications of the Pan-American Union.

Wisconsin Teachers' and Young People's Reading Circles, 1916–1917. State Reading Circle Board.

Very pleasing plan for directing reading of pupils and teachers.

YERKES, R. M., BRIDGES, J. W., and HARDWICK, ROSE S. *A Point Scale for Measuring Mental Ability.* Baltimore: Warwick & York, Inc., 1916. Pp. 218. $1.25.